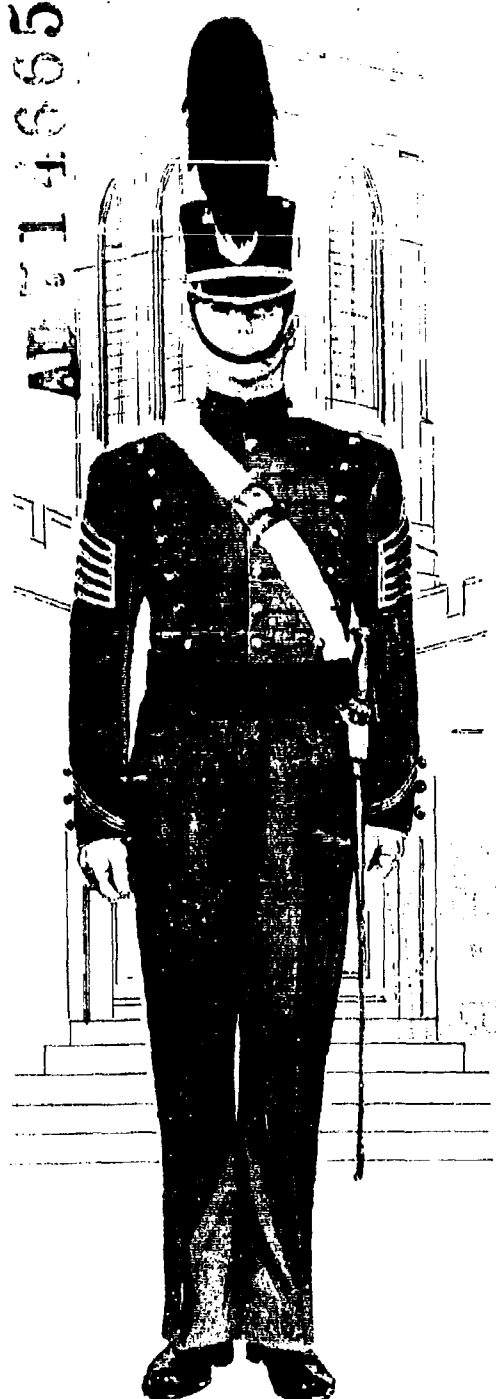


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UNITED STATES MILITARY ACADEMY

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SUMMARY OF FACULTY AND STAFF RESEARCH FOR FISCAL YEAR 1970

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OFFICE OF RESEARCH
July 1970

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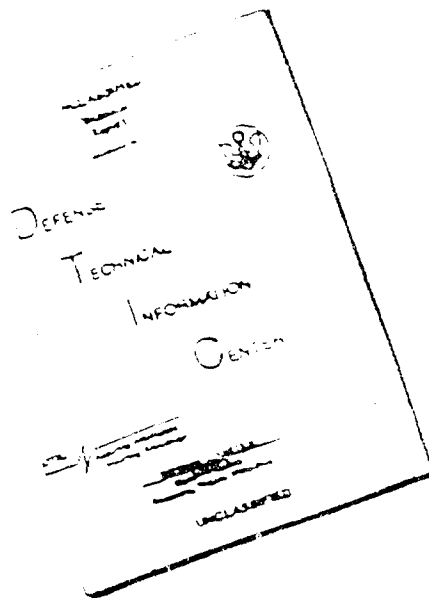
SUMMARY OF FACULTY AND STAFF RESEARCH
FOR FISCAL YEAR 1970

XR4.01-70-001

Compiled by: Specialist Joel Morgovsky

July 1970
Office of Research
United States Military Academy
West Point, New York 10996

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PREFACE

This booklet describes the research projects of the Faculty and Staff of the United States Military Academy which were either completed during the period of 1 July 1969 to 30 June 1970 or were still in progress as of 1 July 1970. Also included are a few special research projects conducted by cadets. Although this research is not as extensive as that of many colleges and universities, it is fairly extensive considering the unique mission of the Academy to educate and train young men at the under-graduate level to become Regular Army officers.

The following abbreviations have been used in this booklet:

ASR	Aptitude for Service Ratings
CEER	College Entrance Examination Board Tests and High School Rank
PAE	Physical Aptitude Examination
LPS	Leadership Potential Score

OFFICE OF THE DEAN

The Office of the Dean conducts analysis and research in curriculum trends, methodology, teaching and training aids, educational plants, technological aids to instruction, and related activities in order to more effectively perform its primary mission of advising the Superintendent on academic matters relating to the function of the Military Academy.

ACADEMIC RESEARCH

(Independent)

The objectives of the research conducted within the academic departments are threefold. First, the program permits instructors to continue basic research in their areas of interest and specialization. With the facilities available faculty members have the opportunity to do research in meeting requirements for advanced degrees. Secondly, the research supports cadet instruction such as the curriculum and on cadet projects. Lastly, where compatible with the basic mission of the Department, research is performed as a contribution to practical projects which are of interest to agencies outside of the Academy such as the Atomic Energy Commission, the United States Bureau of Mines, and the United States National Bureau of Standards.

DEPARTMENT OF CHEMISTRY

TITLE: Effects of Calcium Ions on the Enzymatic Activity of Ribonuclease

PRINCIPAL INVESTIGATORS: Captain J. D. DeFoe
Cadet C. Miles ('70)

SUPPORT: The Department of Chemistry, USMA, supported this project as part of CH 489.

SCOPE: Experimental determinations of the effects of calcium and magnesium on the catalysis of the hydrolysis of ribonucleic acid by bovine pancreatic ribonuclease were carried out. These were studied over a range of physiological concentrations of divalent ions at constant ionic strength and temperature. Purified enzyme and substrate preparations were used.

CONTRIBUTION: This study has shown that calcium and magnesium, the divalent cations present in the greatest intracellular concentrations, have an activating effect on the catalytic action of ribonuclease. The existence of at least two different metal binding sites in the enzyme or substrate have been postulated.

Further studies in this area might be important in elucidating the possible involvement of ribonuclease in a mechanism for ribonucleic turnover control during cell growth and/or division.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed 20 May 1970.

TITLE: Isolation and Identification of Components in Crude Petroleum

PRINCIPAL INVESTIGATORS: Major Harry G. Rennagel
Cadet R. J. Baron ('70)

SUPPORT: The Department of Chemistry, USMA, supported this project as part of CH 489.

SCOPE: Analysis of a sample of crude petroleum was performed in an effort to isolate and identify as many components as possible. Initially, the crude petroleum was carefully fractionated in a metal-packed column. Each fraction was then carefully analyzed for content with a gas chromatograph and comparisons made with known compounds, some of which had to be synthesized in the laboratory. Four of the components of the crude petroleum sample were positively identified using these techniques.

CONTRIBUTION: Similar analyses using different crude petroleum samples from various parts of the world should lead to the ability to predict the components of a crude petroleum fraction based upon its geographical source.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: To be continued in FY71.

TITLE: Structural Studies of Group VIB Arene Tricarbonyls

PRINCIPAL INVESTIGATORS: Captain Orwin L. Carter
Cadet D. D. Shaw ('70)
Cadet M. D. Snow ('70)

SUPPORT: The Department of Chemistry, USMA, supported this project as part of CH 489.

SCOPE: To determine if charge transfer complexes were formed between mesitylenemolybdenumtricarbonyl and various acceptor molecules. The purpose of this investigation was to extend the field of knowledge from the chromium complexes of this type to the molybdenum analogs. The method employed was analysis of the infrared spectra of the complexes to see if shifts in absorption peaks or new peaks could be detected. These shifts would indicate that the complex had been formed.

CONTRIBUTION: The results of this study showed that charge transfer complexes were formed between mesitylenemolybdenumtricarbonyl with *m*-dinitrobenzene and also with 1,3,5-trinitrobenzene in chloroform solution. Several additional weak bands were detected in the IR as well as shifts of the order of 5 cm⁻¹.

In addition shifts of the order of 2 cm⁻¹ were found for KBr pellets of mesitylenemolybdenumtricarbonyl with 1,3,5-trinitrobenzene and also with 2,4,6-trinitrobenzoic acid.

This study definitely concluded that charge transfer interactions do occur but was unable to draw a conclusion as to the structure of the charge transfer complex.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed 15 May 1970.

DEPARTMENT OF EARTH, SPACE AND GRAPHIC SCIENCES

TITLE: Landscape Atlas of the USSR (Formerly Geographic Atlas of the USSR)

PRINCIPAL INVESTIGATORS: Major Thomas F. Plummer, Jr.
Major Christian C. Thudium, Jr.
Major William G. Hanne

SUPPORT: None

SCOPE: The objective of the research is to prepare a Landscape Atlas of the USSR for use as a cadet reference for study of the USSR at the United States Military Academy.

The problem of the research is to assemble and organize a collection of large-scale map sheets of selected areas in the USSR. Map sheets will be selected to show relevant physical and man-made phenomena which are significant for greater understanding of the geography of the Soviet Union. These maps, bound as an atlas and with written commentary, will provide the cadet with a cartographic frame of reference for examining and interpreting Soviet man-land relationships.

CONTRIBUTION: A "first-of-its-kind" interpretation of Soviet man-land relationships utilizing a representative body of regionally organized topographic maps.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as USMA Report Number VIIIB1.01-67-001.

STATUS: Sections of seventy-five topographic maps have been selected and organized into eleven chapters. Thirteen of the maps are in the planning stage, twelve in preliminary draft stage, twenty-five in various stages of rewrite and review by Soviet experts, and twenty-five are in final draft stage.

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DEPARTMENT OF ENGINEERING

TITLE: Toward a Science of War through Some Mathematical Concepts of Macrocombat.

PRINCIPAL INVESTIGATOR: Colonel Robert W. Samz

SUPPORT: Major portion of this project is being funded by investigator's personal resources.

SCOPE: The work is a dissertation in partial fulfillment of the requirements for the Ph.D. degree. The purpose of the work is to bridge the communication gap that exists between the military professional and the military theoretician. The former uses nine qualitatively stated principles to practice the art of war while the latter uses quantitative methods to model macrocombat. The works of military theoreticians are widely scattered throughout the literature, use a variety of mathematical notation, and often the mathematical methods are beyond the immediate competence of many military professionals. For these reasons, the military professional is inhibited from studying the works of military theoreticians. First, this work liberally quotes the great captains and scholars of warfare to forge the link between the qualitative principles of war and the mathematical concepts used by theoreticians. Second, this work discusses some of the basic homogeneous and heterogeneous mathematical models, and painstakingly analyzes them using a level of mathematics that does not exceed that taught in some advanced courses at the United States Military Academy. Third, this review leads to the disclosure that a widely accepted verification, using data from the Battle of Iwo Jima, is based on invalid data and so is not a sound verification. Finally, valid data for the Battle of Iwo Jima are collected and several models are verified using Theil's Inequality Coefficient as a criterion for goodness of fit of model data and actual battle data. This verification lends credibility to the concept of modelling macrocombat mathematically. This work also discloses that because of simplicity, comparable accuracy, and ease of enrichment, difference equation models are preferred to differential equation models.

CONTRIBUTION: This work is the first known step to bridge the communication gap that exists between the military professional and military theoretician. By doing so, it should enable the military professional to become an active partner with the military theoretician in transforming the art of war into a science of war. Until this happens, it is doubtful that a viable science of war can develop. In due time, this work can constitute the nucleus for the study of a science of war at senior service schools. Thus, these schools will hopefully take over the vital role of being centers for the further development of a science of war.

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PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: The dissertation will be orally defended at Arizona State University in June 1970.

TITLE: A Combat Division Optimal Inventory Policy for Artillery Ammunition.

PRINCIPAL INVESTIGATORS: Major Duff G. Manges
Cadet Steve J. Swain

SUPPORT: None.

SCOPE: At the Division level the basic problem of ammunition allocation can be resolved by determining the probability distribution function for each of the supporting battalions and, having done this, determining the probability distribution function resulting from the sum of the battalion functions, i.e., the distribution requirements for the Division. If the probability distribution law of the Division's ammunition requirements is known, a model can be devised to determine optimal reorder times and quantities. A policy then results which can be used at the Division to determine the ASR.

CONTRIBUTION: If the proposed model can be validated, it can prove to be of significant value in planning for artillery ammunition projections at the Division level. Extension to higher levels of command may be made by varying size parameters.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Continuing.

TITLE: Fluidic Carbon Dioxide Sensor Applied to Pulmonary Ventilation.

PRINCIPAL INVESTIGATORS: Major H. N. White
Cadet K. Jarrett ('70)

SUPPORT: Equipment and counsel provided by Harry Diamond Laboratories (HDL), Washington, D. C.; West Point Army Hospital; and the Department of Chemistry, USMA.

CONTRIBUTIONS: A theoretical model was developed relating to frequency of the fluidic oscillations to the unknown concentration of carbon dioxide and other known parameters. The experimental results agreed closely with theoretical predictions. This was the first time that an oscillator had been used in a human environment. Problems resulting from the human environment were isolated, i.e., pressure and temperature stabilization and the extreme sensitivity of the oscillator to condensed moisture.

The extreme moisture problem was not anticipated. The successful results of the project including the problems will prove valuable to continuing work by HDL on the device and its applications.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Keith Jarrett, "Fluidic Carbon Dioxide Sensor Applied to Pulmonary Ventilation," paper presented for OE 452, Weapon Systems Engineering Honors Course, USMA, West Point, N. Y., May 1970.

STATUS: Project completed at USMA.

TITLE: Fluidic to Electrical Transducer Using a Mechanically Disturbed Magnetic Circuit.

PRINCIPAL INVESTIGATORS: Major H. N. White
Cadet W. C. Taylor ('70)

SUPPORT: Equipment and counsel provided by Harry Diamond Labs (HDL), Washington, D. C.; and the Department of Electricity, USMA.

SCOPE: A theoretical and experimental study was conducted to determine the feasibility and problems in improving the efficiency of an HDL developed fluidic to electrical transducer by eliminating the fluidic to acoustic energy conversion.

CONTRIBUTION: A transducer was designed that eliminated the fluidic to acoustic energy conversion and that was sufficiently simple to allow a mathematical analysis. A theoretical model was developed that related the output power to the Fourier coefficients of the fluidic forcing function. Analysis of the mathematics resulted in the selection of specific physical dimensions that were predicted to produce a more efficient transducer. A transducer was built that operated at a higher efficiency than the HDL transducer. The new transducer is not better than the HDL transducer because the new transducer uses a sliding pneumatic piston that is inherently less reliable than the moving diaphragm, which is used in the HDL transducer. A compromise design was indicated and criteria were developed for the design. These criteria and the mathematical analysis will provide valuable to the continuing work by HDL on the device and its applications.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: William C. Taylor, "Fluidic to Electrical Transducer Using a Mechanically Disturbed Magnetic Circuit," paper presented for OE 452, Weapons System Engineering Honors Course, USMA, West Point, N.Y., May 1970.

STATUS: Project completed at USMA.

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DEPARTMENT OF ENGLISH

TITLE: The Aesthetics of War.

PRINCIPAL INVESTIGATOR: LTC William C. Haponski

SUPPORT: None.

SCOPE: To determine how the bestial circumstances of war can be translated by the artist into something of beauty; illustrations from the works of such authors as Walt Whitman and Joseph J. Conrad, and from personal experiences of the investigator. A discussion of the function of an artist as a reporter, arranger, and interpreter of human experience. How some of war's brutal "objective reality", through the artist's sensitivity, is rendered beautiful and instructive.

CONTRIBUTION: Developed the relationship between the seemingly mutually exclusive concepts of war and beauty.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Presented before the Polish-American Heritage Society of Philadelphia on March 8th, 1970.

STATUS: Complete.

TITLE: "The Diamond Stick-Pin"

PRINCIPAL INVESTIGATOR: LTC William C. Haponski

SUPPORT: None.

SCOPE: A study of the life of Gustave F. Lussi, the world's leading figure-skating professional. The study currently has two directions: (1) a brief article on the significant contribution of Lussi in his fifty years in the sport (see Publication); (2) a full-length biography.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: "Golden Blades: Fifty years of Figure Skating for Gustave Lussi, Teacher of Champions", Skating (June 1970). Note: no volume number exists; pages unknown (magazine published but not yet distributed).

STATUS: (1) article already published, (2) biography incomplete draft.

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TITLE: Annotated bibliography, American literature, 1870-1910.

PRINCIPAL INVESTIGATOR: Colonel Jack L. Capps

SUPPORT: None

SCOPE: Annotation of primary and secondary material related to American literary figures in the late nineteenth and early twentieth centuries.

CONTRIBUTION: Reference for research in depth in the period.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Collected research is published quarterly in AMERICAN LITERARY REALISM, University of Texas (Arlington).

STATUS: Continuing.

TITLE: "Shylock and the Status of Usury in England from 1540 to 1640."

PRINCIPAL INVESTIGATOR: Major Paul C. Hutton, III

SUPPORT: Investigation was made in conjunction with short term civil schooling supported through funds made available in July 1969 by Dean's Office.

SCOPE: The purpose of this article is to evaluate Shylock's position with respect to contemporary English attitudes on usury found in the church, in business, and in the law. Extensive original materials (available only at the University of Pennsylvania) were used.

CONTRIBUTION: Demonstrates that the treatment of Shylock manifests a bias against usury which pertains more to Shakespeare than to Sixteenth and Seventeenth Century England.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Article has been revised and is being readied for journal publication this Summer.

STATUS: Completed revised draft (February, 1970.)

TITLE: Vercelli Homilies IX-XXIII.

PRINCIPAL INVESTIGATOR: Captain Paul E. Szarmach

SUPPORT: Except for the aid of the Inter-Library Loan Department of the USMA Library, this project is being supported by the researcher.

SCOPE: This project aims to supply Old English Studies with a reliable edition of the homilies found in the Vercelli Book, a late tenth century Old English manuscript. When completed, this edition will round out the editorial work on this manuscript, thus allowing Old English scholars to pursue additional literary investigation of the manuscript. Traditional editorial practices, including collation with other manuscripts, will be carried out. This work will be an elaboration and improvement of the researcher's doctoral dissertation (Harvard, 1968).

CONTRIBUTION: In addition to providing a reliable edition for Old English scholars, this project will assist future researchers in describing, defining, and evaluating the corpus of Old English prose.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: The following articles are by-products of the above research:

"Caesarius of Arles and the Vercelli Homilies"--Traditio, 1970 (in galley).

"Vercelli Homily XX"--Medieval Studies, 1972 or 1973.

STATUS: The project is on-going with a projected termination date of Summer 1972.

TITLE: The Critical Reputation of Robinson Jeffers

PRINCIPAL INVESTIGATOR: Major Alex A. Vardamis

SUPPORT: None.

SCOPE: A thorough, annotated bibliography of critical material on the American poet, Robinson Jeffers (1887-1962) with an introduction which evaluates the material in relation to twentieth-century American literary criticism in evaluating the impact of history and politics on a poet's literary reputation.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: This work fulfills the dissertation requirement for the Ph.D. at Columbia University.

STATUS: The project was completed in May 1970. Presented and approved 1970.

TITLE: John Moore

PRINCIPAL INVESTIGATOR: Major Peter L. Stromberg

SUPPORT: None.

SCOPE: A partial fulfillment of the requirements for the Ph.D. degree at Cornell University, this study is an examination of the life and work of John Moore (1729-1800).

CONTRIBUTION: The study promises to reveal that Moore, a relatively unknown figure in eighteenth-century British literature, has left a record that deserves scholarly attention and that will contribute to the understanding of the period.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Continuing. -----

TITLE: "L'apre verite and le style emphatique in Le Rouge et le Noir".

PRINCIPAL INVESTIGATOR: Captain Roger B. Johnson

SUPPORT: None.

SCOPE: An essay exploring and correlating cogent remarks on Stendhal's realism.

CONTRIBUTION: Further understanding of Stendhal's style in the narrative form of the novel.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: The essay has been submitted but has not yet been accepted for publication.

STATUS: Complete.

DEPARTMENT OF HISTORY

TITLE: Clausewitz.

PRINCIPAL INVESTIGATOR: Major A. S. Britt

SUPPORT: None

SCOPE: The purpose of this research is to provide a brief coverage of the subject for use in support of courses in military history. It involves careful editing of selected passages from On War and original writing on the theories of Clausewitz. Emphasis is placed on the nature and purpose of war, concepts of strategy, the influence of policy on the conduct of war, and the analytical method by which Clausewitz used history to support his theories.

CONTRIBUTION: The project will provide instructional notes and the first chapter in a projected departmental cadet text of original writings pertaining to the philosophers of war. It is necessary for the teaching of military art courses in the Department of History.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Completed in May 1970.

TITLE: Dennis Hart Mahan: Apostle of Military Professionalism.

PRINCIPAL INVESTIGATOR: Colonel T. E. Griess

SUPPORT: None.

SCOPE: This project envisions the preparation of a biography of the renowned USMA Professor. Much of the work was accomplished as a Ph.D. dissertation. Emphasis is on the USMA curriculum, Mahan's teaching philosophy, his contribution to developing military professionalism in the 19th Century, and his defense of the Military Academy against its critics.

CONTRIBUTION: A publishable book which may be expected to provide new insights concerning the institutional role of USMA, the theoretical aspects of the military art on the eve of the Civil War, and the influence exerted by Mahan will result from this research.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Additional research underway.

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TITLE: The Art of Ancient Warfare.

PRINCIPAL INVESTIGATOR: Major E. C. May

SUPPORT: None.

SCOPE: The purpose of this project is to develop an original cadet text, and associated instructional notes, for use in the course in the History of the Military Art. It involves secondary research and original writing pertaining to the classical and ancient periods, primarily in the military sense. The entire period considered runs from 500 B.C. to 400 A.D. Emphasis is placed on four portions of this period: the Greek and Persian encounters; the Macedonian military system, including Alexander the Great; the rise of the Roman Republic and the threat from Hannibal; and the conversion from Roman Republic to Empire, stressing Caesar's contributions. Primarily attention is placed on the evolution of strategic concepts and tactical measures but the Great Captains are viewed with respect to their contributions to the art of war. Of particular educational interest is the portrayal of various aspects of military operations through maps and drawings.

CONTRIBUTION: The project will provide the first four chapters in an envisioned cadet text which is necessary for the teaching of military art courses in the Department of History.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Expected to be completed by August 1970.

TITLE: Readings in the Evolution of Modern Warfare.

PRINCIPAL INVESTIGATOR: Major J. H. Moellering

SUPPORT: None.

SCOPE: The purpose of this project is to provide a highly selective text of readings to be used in support of an elective course in military history. The work involves both editing writings on the subject and primary research and original writing pertaining to the evolution of the art of fortification and siegecraft (from classical times to the beginning of the 20th Century).

CONTRIBUTION: This research effort will provide textual material, tailored to the needs of the cadet, necessary for teaching in the Department of History.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Work continuing and expected to be completed in time for printing and use in January 1971.

TITLE: Evolution of United States Military Policy to 1860.

PRINCIPAL INVESTIGATOR: LTC R. L. Tripp

SUPPORT: None

SCOPE: This project provides instructional notes and cadet textual material for several courses in military history. It involves primary research and original writing on the development of United States military policy, 1783-1860. Emphasis is placed upon the basic guidelines for policy as established by the Constitution and Militia Act of 1792. The narrative also encompasses the growth of the American military establishment as it was influenced by foreign policy and westward expansion. The first seeds of professionalism are investigated in order to determine the status of the military establishment on the eve of the American Civil War. Primary attention is placed upon the formation of a policy that guided American military thinking throughout the nineteenth century. Of particular interest is the role of the Army in the van of American civilization.

CONTRIBUTION: This research effort will provide increased knowledge in an area pertinent to instruction offered by the Department of History. The textual material initially will be used as lesson addendas and ultimately will be incorporated in a revised atlas-text.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Expected to be completed by October 1970.

TITLE: Notes for the Course in the History of the Military Art.

PRINCIPAL INVESTIGATOR: LTC V.J. Varner

SUPPORT: None.

SCOPE: This project involves a major revision of a text used in all of the military art courses. The work consists partially of editing material pertaining to current military doctrine but also includes primary research and original writing pertaining to the evolution of weaponry (land, sea, and air). The latter aspect involves the development of a complex, illustrated chart with correlates important developments in weaponry with major wars.

CONTRIBUTION: The project will provide textual material necessary for the teaching of military art courses in the Department of History. The text also will be of assistance to ROTC units and will be a useful reference for the West Point Museum.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Work continuing and expected to be completed in time for printing and use in September 1971.

TITLE: Readings in Revolutionary Warfare.

PRINCIPAL INVESTIGATOR: LTC V. J. Varner

SUPPORT: None

SCOPE. This project primarily involves the development of Volume 1 ("French Revolution to WWII") of selected readings used to support all of the military art courses. In this phase, editing of writings as well as secondary research and original writing are involved. The phenomenon of revolutionary warfare is traced using selected case studies. The project also involves preparation of a chapter in another of the volumes of readings pertaining to the 1956 Hungarian Revolution. It entails original writing based on personal interviews as well as secondary source material and emphasizes Soviet counterinsurgency techniques used in Hungary during the period October-December 1956.

CONTRIBUTION: This project will provide textual material necessary to the teaching of military art courses in the Department of History.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Work continuing and expected to be completed by January 1971.

DEPARTMENT OF LAW

TITLE: Constitutional Law

PRINCIPAL INVESTIGATORS: CPT Robert T. Pope
MAJ H.H.H. Clarke
MAJ D. T. Cray
CPT Thomas L. Moore
CPT Richard A. Peterson

SUPPORT: None

SCOPE: Academic coverage through original writing, legal research and editing, of the constitutional concept of the United States government including legislative, judicial, and executive powers and limitations, individual rights under the Constitution, the defense establishment, international law, the Law of War and the legal aspects of civil affairs and counterinsurgency.

CONTRIBUTION: A cadet text of 22 chapters to support the LW 302 course.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed in December 1969.

TITLE: Cases and Materials on Military Law

PRINCIPAL INVESTIGATORS: CPT John K. McGuirk
MAJ Gustave F. Jacob
MAJ Sydney Friedler

SUPPORT: None

SCOPE: Academic coverage through original writing, legal research and editing, of military law, including a study of punishments, the component parts of crimes and offenses, criminal responsibility, selected articles of the UCMJ, jurisdiction, pre-trial matters, non-judicial punishment and court martial procedure.

CONTRIBUTION: A cadet text of 17 chapters to support the LW 302 course.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed in January 1970.

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TITLE: Military Aspects of International Law

PRINCIPAL INVESTIGATORS: COL Thomas C. Oldham
CPT Enoch M. Overby, III

SUPPORT: None

SCOPE: Academic coverage through original writing, legal research and compilation of materials in the area of international law. Analysis of selected case studies such as the Berlin Blockade and the Cuban missile crisis. Compilation of materials involving international confrontations on land, sea and air.

CONTRIBUTION: Materials to support a new course, LW 482, Seminar in Military Aspects of International Law.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: This project is expected to be completed in the Fall of 1970.

TITLE: Proposed Changes to Statutes and Regulations Pertaining to the United States Military Academy.

PRINCIPAL INVESTIGATORS: COL Frederick C. Lough
MAJ David T. Gray
CPT John K. McGuirk

SCOPE: The Superintendent by Letter Orders #747, 25 Oct 68, appointed a committee to review and propose changes to statutes pertaining to USMA and the Regulations for USMA. The named Officers of the Department of Law worked for the committee in compilation, legal research and drafting. The committee's report was sent to the Superintendent on 29 Oct 69 and forwarded by the Superintendent to DCSPER, Department of the Army, on 28 Jan 70. It included twelve (12) statutory change proposals and 137 proposed regulatory changes.

CONTRIBUTIONS: It is expected that these proposals will result in promulgation of Regulations and enactment of new laws pertaining to USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: The committee proposals are now being considered at Headquarters, Department of the Army.

DEPARTMENT OF MATHEMATICS

TITLE: Approximate Solutions to the Nonproportionally Damped Timoshenko Beam.

PRINCIPAL INVESTIGATOR: LTC D. H. Cameron

SUPPORT: Current grant of \$400 provided by Army Research Office-Durham, Contract AROD-4 with Duke University.

SCOPE: Numerical studies of frequency and modal response of the Timoshenko beam equations modified to include externally applied viscous damping were conducted. Damping was applied in a number of nonproportional distributions to investigate the degree of complexity that results in frequencies and modes.

CONTRIBUTION: These studies, conducted on a uniform simply supported beam, show that uniform damping in opposition to transverse motion selectively attenuates flexural vibrations leaving shear vibrations in a state of undamped motion. Uniform rotary damping tends to affect flexural and shear vibrations in an opposite manner. Damping due to widely separated dashpots causes a significant modal complexity leading to traveling wave motion in various modes. Formulations are applicable to non-uniform beams with different end supports. Applications of the programs to a variety of other structures is possible.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

D. H. Cameron, "Approximate Solution to the Nonproportionally Damped Timoshenko Beam," dissertation presented to the faculty of Princeton University, June 1970.

STATUS: Extracts for publication are under preparation.

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DEPARTMENT OF MECHANICS

TITLE: The Dynamic Behavior of a Tee Junction in a Fluidic System.

PRINCIPAL INVESTIGATOR: Major F. J. Redd

SUPPORT: Support provided by ARO-Durham. Current grant is \$5420.00 for the period 1 May 1970 through 31 May 1971.

SCOPE: A comprehensive analytic and experimental study of the frequency dependent behavior of a tee junction is to be performed over a wide range of frequencies. The objective of the study is to provide a mathematical model of the dynamic behavior of the tee junction suitable for use in the synthesis of a fluidic system. The results of this study are intended to be used as partial fulfillment of the requirements of a Ph.D. degree for the principal investigator.

CONTRIBUTION: The tee junction plays an essential role in the synthesis of any complex fluidic system. Attempts to model the behavior of such a junction have been minimal to date. If attempts to synthesize more complex fluidic systems are to be successful, a more comprehensive understanding of the dynamic behavior of the tee junction in the system is required. This knowledge will not only allow the designer to ascertain the effects of the tee on his system, but it will also allow him to vary its geometry and location in order to achieve a desired response.

PUBLICATIONS AND CONFERENCE PRESENTATIONS. None

STATUS: Project is continuing.

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DEPARTMENT OF PHYSICS

TITLE: Electron Spin Resonance Studies of Color Centers in Mixed Alkali-Halide Crystals

PRINCIPAL INVESTIGATORS: COL L. E. Radford
CPT P. W. Forbes

SUPPORT: Continuing support provided by ARO-Durham. Current grant is \$6,566.00 for the period October 1969-October 1970.

SCOPE: Experimental studies of the ESR spectra of various mixed alkali halide crystals which have been irradiated with x-rays are being carried out at liquid nitrogen temperatures. The crystals being studied include KCL:KI, KI:KCL, FCL:FI, and NaCl:NaI in several percent mixtures.

CONTRIBUTION: These experiments are designed to obtain basic data on characteristics and stabilities of color centers produced by x-ray irradiation at liquid nitrogen temperature. The results have application in the theory of crystal defect structure and radiation damage. The data obtained during the past year will give a new interpretation of a previously examined defect center. It also appears that a new center has been found. These data are still under investigation, but the results should be submitted for publication in the near future. Informal collaboration has been established with scientists at Argonne National Laboratory who are conducting similar investigations.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: L. E. Radford, J. S. Willis, P. W. Forbes, "Teaching Perturbation Theory Through Spin Systems," American Journal of Physics, (May 1970).

STATUS: To be continued in FY71.

TITLE: Threshold Effects of Chemical Mixtures in the HCN Laser

PRINCIPAL INVESTIGATORS: MAJ Thomas R. Mooney, USMA
MAJ Charles S. Green, USMA
Harold Jacobs, USECOM
George Morris, USECOM

SUPPORT: The work was supported by USECOM Labs.

SCOPE: The purpose of the investigation was to study the long wavelength laser lines emitted by the HCN laser to determine whether they could provide a useful source of submillimeter wave radiation. Threshold effects and total power output were studied for a basic fuel and one in which chemical additives were present. Additives were sought which would provide resonant transfer of energy to the HCN to enhance the output of the laser.

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CONTRIBUTION: Thresholds were determined for HCN and an enhancement of both threshold and total power was found when CO₂ was added to the basic gas.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

Morris, G.E., Jacobs, H., Brand, C.S., and Monney, T.R., MAJ;
"Threshold Effects of Chemical Mixture in the HCN Laser"
Army Science Conference - USMA, 15-19 June 1970.

STATUS: The project will be continued during the Summer of 1970 through the participation of a USMA faculty member at USECOM.

DEPARTMENT OF SOCIAL SCIENCES

TITLE: An effectiveness Model for Territorial Forces

PRINCIPAL INVESTIGATORS: COL Amos A. Jordan, Jr.
LTC Lee D. Olvey
MAJ John D. Simpson

SUPPORT: Administrative costs were funded by Advanced Research Projects Agency, Department of Defense

SCOPE: Formulation and testing of a mathematic model for measuring the effectiveness of South Vietnam's RF and PF forces.

CONTRIBUTION: To develop a methodology for verification and use by MACV in evaluating territorial forces.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

LTC L. D. Olvey and MAJ J.D. Simpson, "An Effectiveness Model for Territorial Forces," presented at the CIRADS IV Conference sponsored by RACIC at Battelle Memorial Institute, Columbus, Ohio, 19-21 May 1970.

STATUS: Project completed, paper published in CIRADS IV Conference proceedings.

TITLE: Officer Education

PRINCIPAL INVESTIGATOR: COL A. A. Jordan, Jr.

SUPPORT: None

SCOPE: A review and analysis of military education from pre-commissioning through the war college, to increase appreciation in civilian circles of the complexity and comprehensiveness of officer education.

CONTRIBUTION: Publication in Social Research and Military Management: A Survey of Military Institutions, edited by Roger W. Little for The Inter-University Seminar on Armed Forces and Society.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

Publication in Social Research and Military Management: A Survey of Military Institutions, edited by Roger W. Little for The Inter-University Seminar on Armed Forces and Society.

STATUS: Completed, Summer, 1969

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TITLE: Troop Information and Indoctrination

PRINCIPAL INVESTIGATOR: COL A. A. Jordan, Jr.

SUPPORT: None

SCOPE: A review and analysis of the status of troop information across the services, to increase appreciation in civilian circles of the character and extent of troop information and indoctrination.

CONTRIBUTION: Publication in Social Research and Military Management: A Survey of Military Institutions, edited by Roger W. Little for The Inter-University Seminar on Armed Forces and Society.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Publication in Social Research and Military Management: A Survey of Military Institutions, edited by Roger W. Little for The Inter-University Seminar on Armed Forces and Society.

STATUS: Completed, Summer, 1969

TITLE: Role of the Military in Defense Decision Making

PRINCIPAL INVESTIGATOR: COL A.A. Jordan, Jr.

SUPPORT: None

SCOPE: This study will constitute an analysis of the decision making process in national security matters and of the role of the various US governmental agencies therein; finally, what part the uniformed military can and should play.

CONTRIBUTION: Lectures and articles providing insight into the decision making process in national security matters.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Under way

TITLE: The US Military Academy, 1833-1866: Years of Progress and Turmoil.

PRINCIPAL INVESTIGATOR: COL James L. Morrison, Jr.

SUPPORT: Research has been funded from personal resources.

SCOPE: This study will examine the US Military Academy as an educational institution and a professional military training school beginning with the immediate post-Thayer period and ending in 1866, with the removal of the Academy from the supervision of the Chief of Engineers. The purpose of the study is to determine the nature, extent, and causation of institutional changes and the impact of these changes on the institution itself, the Corps of Cadets, and the Army.

CONTRIBUTION: Doctoral dissertation, Columbia University, and eventual publication.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed

TITLE: The Memoirs of Henry Heth

PRINCIPAL INVESTIGATOR: COL James L. Morrison, Jr.

SUPPORT: Research is being funded by a grant of \$200 from Greenwood Press.

SCOPE: An editing of the memoirs of this graduate of the Class of 1847, consisting of a biographical introduction and appropriate textual notes. Heth, who was Burnside's roommate as a cadet, served in Mexico and on the frontier, wrote a marksmanship manual, and tested rifles while an officer in the Regular Army. Resigning in 1861, he entered the Confederate service and rose to the rank of Major General, commanding a division under A.P. Hill in the Army of Northern Virginia. After the war he sold insurance, engaged in a coal mining venture with Burnside, served as an investigator in the Indian Bureau during Grant's presidency, and gathered Confederate documents for the Official Records: War of the Rebellion...

CONTRIBUTION: Publication with Greenwood Press

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

James L. Morrison, "The Memoirs of Henry Heth," Civil War History, March and September, 1962.

STATUS: Research underway.

TITLE: Revolutionism

PRINCIPAL INVESTIGATOR: MAJ Daniel Collier
Abdul A. Said, Professor of
International Relations, The American
University

SUPPORT: Research has been funded from personal resources.

SCOPE: An examination of the scope of the phenomenon of
Revolution in the modern world.

CONTRIBUTION: Publication by Allyn and Bacon, Inc.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed, publication in 1970

TITLE: The Delta War

PRINCIPAL INVESTIGATOR: MAJ Daniel Collier

SUPPORT: Research has been funded from personal resources.

SCOPE: An account of a provincial advisor in Vietnam, with a
theoretical chapter on the role of the advisor.

CONTRIBUTION: Publication.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed January 1969; awaiting publication.

TITLE: The Agony of Restraint: Korea 1951-1953

PRINCIPAL INVESTIGATOR: MAJ Edwin A. Deagle, Jr.

SUPPORT: None

SCOPE: A study of the efforts of the military establishment in
political-military policy-making in the search for an end to
the war in Korea.

CONTRIBUTION: Doctoral dissertation, publication by the Office
of the Chief of Military History as part of the Army Historical
Series.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Doctoral dissertation,
publication by the Office of the Chief of Military History as
part of the Army Historical Series.

STATUS: Completed, December 1969.

TITLE: The United States Military Academy, 1865-1900: The
Uncertain Years

PRINCIPAL INVESTIGATOR: MAJ Walter S. Dillard

SUPPORT: None

SCOPE: This study will examine the post-Civil War period of the Military Academy, dealing with the impact of rapidly expanding curricula in the educational world on West Point, the arrival of the first Black cadets and the problems they and the Academy consequently faced, and the never ending struggle between the War Department and the Academic Board over professional and academic courses.

CONTRIBUTION: Doctoral dissertation, Columbia University, and part of series for four dissertations on the history of the Military Academy. Colonels Denton, Morrison, and Nye have completed the other three. Hopefully all four will ultimately be published.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway

TITLE: The Tragic Alliance: Austro-German Military Cooperation,
1871-1918

PRINCIPAL INVESTIGATOR: MAJ Ronald L. Ernharth

SUPPORT: None

SCOPE: A study of the cooperation between the military commands of Germany and the Austro-Hungarian Empire from the aftermath of the Franco-Prussian War to the end of World War I. The study incorporates much original research in primary sources.

CONTRIBUTION: Doctoral dissertation, Columbia University, and publication.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Final draft stage; dissertation defense scheduled for May, 1970.

TITLE: Human Inputs and Emerging Technologies

PRINCIPAL INVESTIGATOR: MAJ Berkwood M. Farmer

SUPPORT: Research has been supported by grants from the US Department of Agriculture.

SCOPE: An analysis of the long-run effects of production practice changes on output and labor input in U.S. agriculture in order to predict the resulting price and income changes within agriculture.

CONTRIBUTION: Publication as chapter in book of readings, The Study of U.S. Agricultural Adjustment, to be edited by G. S. Tolley, Professor of Economics, University of Chicago.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Publication as chapter in book of readings, The Study of U.S. Agricultural Adjustment, to be edited by G. S. Tolley, Professor of Economics, University of Chicago. Book to be published by North Carolina State University Press in Spring, 1970.

STATUS: Book to be published by North Carolina State University Press in Spring, 1970. -----

TITLE: Managing Insurance and Personal Finance

PRINCIPAL INVESTIGATOR: MAJ Norbert W. Frische

SUPPORT: None.

SCOPE: A revision of the text written by the Department of Social Sciences.

CONTRIBUTION: This text is used by cadets during the first semester of their final year at West Point to prepare them for the problems of personal finance that they will face upon graduation.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Revision underway, publication expected by November, 1970.

TITLE: Party Politics and Foreign Policy

PRINCIPAL INVESTIGATOR: MAJ Christian M. Larson

SUPPORT: None.

SCOPE: An analysis of congressional voting data and political party platforms during the period 1950-1962 with reference to foreign affairs.

CONTRIBUTION: Publication in Public Affairs, John F. Kennedy School of Government, Harvard University.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Submitted for consideration.

TITLE: Analysis of Russian Force Levels, 1960-1965.

PRINCIPAL INVESTIGATOR: MAJ John A. Le Febvre

SUPPORT: None.

SCOPE: A study of Soviet conventional force capabilities during the period preceding the Fall of Khrushchev in an attempt to determine the relative weight of American vs. Chinese threat estimation and therefore Soviet force composition.

CONTRIBUTION: Doctoral dissertation, Harvard University.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway

TITLE: U.S. Advice and Support to Military Schooling and Training in the Republic of Korea: A Case Study of Acculturation

PRINCIPAL INVESTIGATOR: MAJ James R. Martin

SUPPORT: None

SCOPE: An analysis of the impact of the U.S. Army Military Assistance Program to the Korean Army on the diffusion of American values to the Korean Army.

CONTRIBUTION: Doctoral dissertation, Harvard University.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway.

TITLE: The Comparative Analysis of Foreign Policy

PRINCIPAL INVESTIGATOR: MAJ David W. Moore

SUPPORT: Research has been supported by the Mershon Center for Education in National Security at Ohio State University and by the National Science Foundation.

SCOPE: A study to test the usefulness of James N. Rosenau's model of foreign policy, using data and facilities of Project CAPE (Comparative Analysis of Policy Environments), under the direction of Professor Philip M. Burgess of the Ohio State University.

CONTRIBUTION: Doctoral dissertation, Ohio State University.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None.

STATUS: Underway, completion expected by August, 1970.

TITLE: A Review of Alliance Literature

PRINCIPAL INVESTIGATORS: MAJ David W. Moore
PROF Philip M. Burgess, Ohio State University

SUPPORT: None

SCOPE: A review of recent alliance literature utilizing the propositional inventory as an organizing technique and incorporating the propositions into a systems model.

CONTRIBUTION: Publication in Political Science Annual III.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completion expected by August, 1970.

TITLE: The Representativeness of the Primary Electorate: A Look at the Local Level

PRINCIPAL INVESTIGATORS: MAJ David W. Moore
PROF C. Richard Hofstetter, Ohio State University

SUPPORT: None

SCOPE: A study to determine if those who vote in a primary election are representative of the party members as a whole. Data is based on a survey of attitudes of party members in Columbus, Ohio during the 1968 primary election.

CONTRIBUTION: Publication

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completion expected by August, 1970.

TITLE: Micro-Politics and Revolutionary Warfare: A Case Study of a Mekong River Province

PRINCIPAL INVESTIGATOR: MAJ Howard M. Potter

SUPPORT: Research is being funded from personal resources.

SCOPE: The project represents a multi-discipline analysis of the historical development of patterns of authority, legitimacy, and value allocation in the "newest" area of Vietnam which retains a legacy from the ancient empires of India, Rome and China. A separate, but concurrent, project under the same heading concerns the techniques of revolutionary warfare currently practiced in the area by the several "sides" involved. A third subject, also concurrent, is the role of external civilizations in the two processes noted above.

CONTRIBUTION: To produce three volumes for publication by 1975. A publication offer, based on one syllabus, has been received from one publisher.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Drafting stage with concurrent research.

TITLE: An Intelligence Model for Analysis of an Insurgency

PRINCIPAL INVESTIGATOR: MAJ Howard M. Potter

SUPPORT: None

SCOPE: To determine whether automatic data techniques can be applied to the problem of rapid pattern establishment in analysis of an ongoing conflict.

CONTRIBUTION: Publication

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Programs are being tested with recent data.

TITLE: The Intelligence Functions of the Daily Newspaper

PRINCIPAL INVESTIGATOR: MAJ Howard M. Potter

SUPPORT: None

SCOPE: A study of the extent to which newspapers reflect on their editorial pages the input material published elsewhere in the journal. Three case studies of the New York Times coverage of Vietnam will be used, for the periods:

- a. 1959-1962
- b. Jan - Aug 1963
- c. Nov 1968-Jan 1969

CONTRIBUTION: Publication

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Continuing collection of data.

TITLE: Objective Evaluation of Teaching Effectiveness in Economics

PRINCIPAL INVESTIGATOR: MAJ Robert G. Uhler

SUPPORT: None

SCOPE: A comparison of the alternative ways of teaching the basic economic course at the United States Military Academy.

CONTRIBUTION: Publication in Journal of Economic Education, 1971.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway

TITLE: Economic Warfare in the Communist Bloc: A Study of the Soviet Union's Use of Economic Pressure against Yugoslavia, Albania, and Communist China.

PRINCIPAL INVESTIGATOR: CPT Robert O. Freedman

SUPPORT: None

SCOPE: The purpose of this study is to examine a long neglected facet of Soviet foreign policy. The policies of the last three Soviet leaders (Stalin, Khrushchev and Brezhnev) are examined in an effort to determine significant differences and continuing trends in this area of Soviet foreign policy.

CONTRIBUTION: Doctoral dissertation and publication.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Accepted for publication by Frederick A. Praeger, Inc., during July, 1970.

STATUS: Accepted for publication by Frederick A. Praeger, Inc., during July, 1970.

TITLE: Soviet Policy in the Middle East Under Brezhnev and Kosygin

PRINCIPAL INVESTIGATOR: CPT Robert O. Freedman

SUPPORT: None

SCOPE: A study of the evolution of Soviet policy in the Middle East from Khrushchev to Brezhnev, with particular emphasis on Soviet policy since the June War of 1967.

CONTRIBUTION: Publication in an academic journal.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway

TITLE: Interest Group Theory and Political Philosophy

PRINCIPAL INVESTIGATOR: CPT Walter C. Hendrix III

SUPPORT: None

SCOPE: A comparison of the political philosophy of Marsilius of Padua with that of the contemporary philosopher David B. Truman concerning political interest groups.

CONTRIBUTION: Publication in academic journal

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Submitted to Political Science Quarterly, March, 1970.

TITLE: Brazil Goes to War, 1937-1945

PRINCIPAL INVESTIGATOR: CPT Frank D. Mc Cann

SUPPORT: Research has been supported by a grant of \$1200 from the American Philosophical Society.

SCOPE: A study of Brazilian diplomacy from the beginning of Getulio Vargas' Estado Novo to the end of World War II. It deals with the struggle between Germany and the United States to influence the Brazilian dictatorship in their favor, with the establishment of close ties with the latter, and Brazilian participation in the war, in order to gain a clearer understanding of Brazil's role in the war and of United States diplomacy in the South Atlantic during the period.

CONTRIBUTION: Originally a doctoral dissertation, now under revision for publication.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

Frank D. Mc Cann, "Brazil and World War II: Route to Power or Dependency", presented at the Columbia University Inter-disciplinary Seminar on Brazil, May, 1970.

Frank D. Mc Cann, "The Military and Development in Brazil", presented at the Conversation in the Disciplines, State University of New York, New Paltz, October, 1969.

Frank D. Mc Cann, "The Military and Change in Brazil", presented at the Midwest Council of the Latin American Studies Association, Ball State University, Muncie, Indiana, October, 1969.

STATUS: Research completed, rewriting individual chapters.

TITLE: Brazilian Personalities during the Vargas Era, 1930-1945

PRINCIPAL INVESTIGATORS: CPT Frank D. Mc Cann
DR. Robert M. Levine, Department of
History, State University of New
York, Stony Brook

SUPPORT: None

SCOPE: This is a study of the role of personality in Brazilian development between the revolution of 1930 and the overthrow of Vargas in 1945. Separate chapters will deal with extremists of the left and the right, the military establishment, the church, regional figures, the foreign ministry, cultural leaders, businessmen, some of the lesser political figures, and the early careers of men who later became important.

CONTRIBUTION: Publication

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Research in progress.

TITLE: A Change of Power: The 1968 Venezuelan Election Campaign

PRINCIPAL INVESTIGATOR: CPT David J. Myers

SUPPORT: Research is being funded by a grant of \$2000 from the Latin American Center of UCLA.

SCOPE: A study to develop a framework for the comparative analysis of election campaigning and then to apply the framework to the 1968 Venezuelan elections. The study includes a multiple regression analysis centering on the socio-economic characteristics of the Venezuelan electorate.

CONTRIBUTION: Publication in the UCLA Monograph Series

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway, completion expected September, 1970.

TITLE: Decision Making and Urban Development - Caracas Under Accion Democratica

PRINCIPAL INVESTIGATOR: CPT David J. Myers

SUPPORT: Research is being funded by a series of grants totalling \$10,000 from the Ford Foundation, the Social Sciences Research Council, the Organization of American States, and the Latin American Center of UCLA.

SCOPE: This study examines four cases of urban development decisions in Caracas, Venezuela. Generalizations drawn from the four case studies are then developed into a political decision-making process for urban development in an emerging nation's capital city.

CONTRIBUTION: Publication in book form.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed as a Ph.D. dissertation at UCLA and currently undergoing revision for publication.

TITLE: Let's Compete with Loan-Sharks

PRINCIPAL INVESTIGATOR: CPT John M. Seidl

SUPPORT: None

SCOPE: A discussion of the nature of the loan-shark industry of organized crime which suggests that the best way to attack this problem is with an economic strategy of restructuring lending markets.

CONTRIBUTIONS: Publication in Harvard Business Review

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Publication in Harvard Business Review. Published in May/June 1970 issue.

STATUS: Published in May/June 1970 issue.

TITLE: American Social Crisis

PRINCIPAL INVESTIGATORS: CPT John M. Seidl
CPT Terrence P. Goggin

SUPPORT: Research has been supported by a grant of \$500 from Prentice-Hall Publishing Co.

SCOPE: A book of supplementary readings assembled for U.S. government courses at the freshman or sophomore levels. The text will treat three important domestic issues: race, environment, and central cities, using a unique methodology to link the substantive issues to the workings of the American political system.

CONTRIBUTION: Publication by Prentice-Hall

PUBLICATION AND CONFERENCE PRESENTATIONS: None

STATUS: Underway, publication expected for Spring, 1971.

TITLE: Bismarck and the Creation of the French Colonial Empire, 1875-1881

PRINCIPAL INVESTIGATOR: CPT Brian L. Villa

SUPPORT: None

SCOPE: A study of Bismarck's policy of reconciliation towards France.

CONTRIBUTION: Publication in a professional journal.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Underway

TITLE: New York City, 1689-1710: An Urban History

PRINCIPAL INVESTIGATOR: LT Thomas J. Archdeacon

SUPPORT: None

SCOPE: An analysis of the population of New York City during the period 1689-1710 with special attention to patterns of wealth, political activity and residence.

CONTRIBUTION: Doctoral dissertation, Columbia University

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

Thomas J. Archdeacon, "Statistical History and Early New York City", presented at Columbia University Seminar on Early American History, May 12, 1970.

STATUS: Nearing completion

TITLE: The American Samuel Johnson: The Psychology of an Early Abolitionist

PRINCIPAL INVESTIGATOR: LT Joseph J. Ellis, III

SUPPORT: None

SCOPE: A study of political and religious thought in colonial America from 1770-1772.

CONTRIBUTION: Doctoral dissertation under revision for publication in book form by Yale University Press.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Under revision

TITLE: The Puritan Mind in Transition

PRINCIPAL INVESTIGATOR: LT Joseph J. Ellis, III

SUPPORT: None

SCOPE: A study of American philosophy, both metaphysics and epistemology, prior to the American Revolution (1755-1770).

CONTRIBUTION: Publication in William and Mary Quarterly and Journal of the History of Ideas

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed and accepted for publication within next year.

TITLE: Economics of Public Utilities

PRINCIPAL INVESTIGATORS: LT John W. Wilson
J. Landon, Case - Reserve

SUPPORT: Administrative costs are funded by Michigan State University Press

SCOPE: An analysis of the demand for utility services in response to variations in price and other independent variables.

CONTRIBUTION: Publication in book form with Michigan State University Press and as articles in professional journals.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

John W. Wilson, "Economics of Public Utility Management and Regulation," paper presented at the Iowa State University Conference on Public Utility Valuation and the Rate Making Process, May 19-21, 1970.

STATUS: One article submitted, another in preparation; book is underway.

DEPARTMENT OF TACTICS

Office of Military Instruction

The research objectives of the Office of Military Instruction are:

(1) to develop related informational materials in the field of Tactics, which can be used as supplemental instructional material to enhance the cadet's appreciation of the art and science of tactics;

(2) to develop career related materials to assist in the motivation of the cadet to pursue a career in the profession of arms;

(3) to continue to develop and implement uses of the computer to make more sophisticated techniques available to the Military Science Branch for examination construction and analysis, objective rating of student performance, and assistance in data processing of student grades.

TITLE: Development of Computer Assisted Grading Techniques for Military Science Instruction

PRINCIPAL INVESTIGATORS: MAJ T. G. Stroup
SP5 G. A. Heckmann
PVT (E-2) D. E. Whitney

SUPPORT: None

SCOPE: The development of a computer assisted grading system for Military Science subjects is being carried out for the purposes of developing a more sound pedagogical base for course development, examination construction, question analysis, and instructional techniques.

CONTRIBUTION: These efforts are designed to, and have contributed to an overall improvement in the military science curriculum by making more sophisticated techniques available to the Military Science course director and instructors for examination construction and analysis, objective rating of student performance, and assistance in data processing of student grades. Informal collaboration has been established with the USMA Office of Research and the USMA Academic Computer Center.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71

TITLE: Utilization of Orienteering Techniques in Training Small Unit Leaders

PRINCIPAL INVESTIGATORS: MAJ T. G. Stroup
MAJ M. K. Sheridan, USMC

SCOPE: This project is designed to culminate in the publishing of an article that outlines the utilization of orienteering techniques in the training of small unit leaders and company size units. During the past year, orienteering training was introduced to the Third Class at Camp Buckner, USCC for the purposes of improving the land navigation training of the individual cadet. The results of this training and the liaison with other agencies involved in orienteering competition and land navigation training are being studied for the purpose of developing and further refining the current instructional techniques used at USMA.

CONTRIBUTION: This project is expected to contribute in the improving of the training of small unit leaders and company size units in the Armed Forces in the necessary skill of Land Navigation.

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PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71.

TITLE: Development of an Annotated Bibliography on American Historical Mapping in the USMA Library Collection

PRINCIPAL INVESTIGATORS: Mrs. Marie Capps, USMA Library Special Collector
MAJ T. G. Stroup

SCOPE: This project involves the cataloging of all American military maps now in the Special Collections of the USMA Library. This cataloging effort is oriented to produce an annotated bibliography and series of historical displays of American military mapping.

CONTRIBUTION: This project is designed to contribute to the field of historical cartographic research in the area of American military mapping. At present, there is no listing of the vast amount of military maps stored at USMA Library. Such an annotated listing would be of considerable assistance to historical researchers and students of history and cartography. An adjunct of this research will be a series of historical displays dealing with American military mapping activities that will be shown during the academic year.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71

TITLE: Revision of Map, West Point and Vicinity, 1:25,000, V821SWEST PT**08

PRINCIPAL INVESTIGATOR: MAJ T. G. Stroup

SUPPORT: None

SCOPE: This project is for the purpose of revising the topographic West Point and Vicinity, 1:25,000 map sheet. The need for revision is due to the fact that the last revision was made in 1955.

CONTRIBUTION: The revision of the topographic map of the USMA Reservation and environs will facilitate the Summer Cadet Training Program and aid in other USMA activities, such as the Engineer Division, the Forester's Office, and the Range Control Office.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71

DEPARTMENT OF TACTICS

Office of Military Psychology and Leadership

The research objectives of the Office of Military Psychology and Leadership are:

- (1) to provide research support for the Leadership Development Program of the Department of Tactics;
- (2) to provide research support for other behavioral interests of the Department of Tactics;
- (3) to provide continued research support of the Aptitude for the Service System;
- (4) to coordinate and provide information to other USMA research activities on projects of interest to the Department of Tactics.

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OFFICE OF MILITARY PSYCHOLOGY AND LEADERSHIP

TITLE: Values of New Cadets

PRINCIPAL INVESTIGATOR: MAJ Ramon A. Nadal

SUPPORT: None

SCOPE: Five hundred new cadets of the Class of 1973 will be tested using the Allport, Vernon, Lindzey Study of Values to determine the value structure of the cadets, what changes take place over four years, and if any differences in values exist between cadets who remain at West Point and those who resign.

CONTRIBUTION: Provide insight into the sort of individual who elects to come to the USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Data to be collected during the Summer of 1970. Report to be prepared during FY71.

TITLE: Transactional Views of Authority

PRINCIPAL INVESTIGATOR: LTC Q. C. Snyder

SUPPORT: None

SCOPE: An attempt to study subordinates' needs for authority to be imposed upon them. Explores Presthus' views that authority is rewarding to subordinates and that the subordinate plays a part in prescribing the limits of authority. To be used as doctorate dissertation.

CONTRIBUTION: An examination of cadet needs as compared to those of other student bodies. Study will develop a need profile of cadets.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be completed during FY71

TITLE: An Evaluation of the Cadet Evaluation System

PRINCIPAL INVESTIGATOR: MAJ A. H. Bair

SUPPORT: None

SCOPE: This research is directed toward studying the validity and reliability of present and proposed inputs to the cadet's leadership potential grade in GOM. The study considers both the

Aptitude for the Service Ratings and the Performance Ratings in order to evaluate the optimum mix of components for evaluating cadets.

CONTRIBUTION: The report will be the basis of recommending revisions to the present system of identifying leadership potential.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be completed July 1970.

TITLE: Assimilation of Minority Group Members into the Corps of Cadets

PRINCIPAL INVESTIGATOR: LTC Q. C. Snyder

SUPPORT: None

SCOPE: Analysis of potential problems and search for positive solutions to the smooth assimilation of minority group members into the Corps of Cadets.

CONTRIBUTIONS: Provides basis for corrective actions and understanding to avoid over-reaction to ethnic, religious or racial difference.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Continuing

TITLE: Investigation of Criteria to Determine Initial Sectioning Assignments in Psychology PL 202

PRINCIPAL INVESTIGATOR: LTC W. B. Seely

SUPPORT: None

SCOPE: This study attempts to verify results of a 1964 study concerning the optimal determination of cadet assignments to sections in Third Class Psychology. The Class of 1971 was used as a subject population. Correlations were made between their final grade point average in Third Class Psychology and the following variables; all Fourth Class academic subject grades, standings in general order of merit, scores on portions of College Entrance Examinations.

CONTRIBUTION: Investigation supported the 1964 study that Fourth Class Environment had the highest single correlation with Psychology (+.592). The study also revealed a correlation coefficient of +.669 when Psychology was compared to a criteria of 1) Environment, 2) English, 3) SAT-Verbal and Fourth Class Math.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71

TITLE: Characteristics of Cadet Resignees.

PRINCIPAL INVESTIGATOR: MAJ James J. Cortez

SUPPORT: None

SCOPE: This study represents the Cadet Counselor's analysis of those cadets who voluntarily resigned during AY 1968-69 and AY 1969-70. An attempt to develop a resignee profile using the California Psychological Index was made.

CONTRIBUTION: This study develops profiles and a study of values of resignees.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Initial report published as MP&L Research Memo 68-10.

STATUS: To continue during FY71.

TITLE: ASR as a Predictor of Success in the Army

PRINCIPAL INVESTIGATOR: MAJ R. A. Nadal

SUPPORT: None

SCOPE: Comparison of cadet ASR and cadet GOM ratings of graduates nominated for promotion to Brigadier General on D.A. Circular 624-78, dated 11 August 1969.

CONTRIBUTION: Serves to show the predictive long range validity of ASR as a measure of success in the Army.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Results are distributed as MP&L Research Memorandum 69-c.

STATUS: Completed

TITLE: Interviews with Recent USMA Graduates Serving in Vietnam

PRINCIPAL INVESTIGATOR: MAJ T. R. Gordon

SUPPORT: None

SCOPE: Purpose of this study conducted under the sponsorship of Advanced Research Projects Agency, Office of the Secretary of Defense was essentially twofold: (1) to ascertain the young officers' attitudes toward the Army; and (2) to develop answers to certain questions about cadet life posed by agencies within the Department of Tactics.

CONTRIBUTION: While the sample was relatively small, the research presents an indication of junior officers' attitudes toward the Army and USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Distributed as MP&L Research Memorandum 69-f.

STATUS: Completed

TITLE: Opinions of New Cadet Barracks from Cadet Squad Leaders

PRINCIPAL INVESTIGATORS: MAJ R. A. Nadal
MAJ D. J. Erickson
SP-4 G. S. Wells

SUPPORT: None

SCOPE: Reports the results of a questionnaire conducted to ascertain the views of those cadets who served as squad leaders during New Cadet Barracks toward changes made in NCB during 1969.

CONTRIBUTION: Emphasized positive leadership approach in dealing with new cadets. Provides a summary of attitudes toward the revised system of handling fourth classmen.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Distributed as MP&L Research Memorandum 69-g.

STATUS: Completed

TITLE: ASR as a Predictor of Success in the Army

PRINCIPAL INVESTIGATOR: MAJ R. A. Nadal

SUPPORT: None

SCOPE: Comparison of the Cadet ASR and GOM standings of graduates nominated for Brigadier General and Major General in D.A. Circular dated May 1970.

CONTRIBUTION: Serves to show predictive long range validity of ASR and GOM as a measure of success in the Army.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be completed in June 1970. Results to be published in a MP&L Research Report.

TITLE: Personality Structure of Low Aptitude Cadets

PRINCIPAL INVESTIGATORS: LTC R. H. Marcum
MAJ Ramon A. Nadal

SUPPORT: None

SCOPE: This study will assimilate available data on low aptitude cadets, generate new data based on psychological testing in order to develop a personality profile of the low aptitude cadet.

CONTRIBUTION: If results warrant, testing instruments may be able to be developed to facilitate selection of cadets. Additionally, a booklet will be published with the findings of this study to assist Aptitude Boards and Tactical Officers in their evaluations of cadets.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued during FY71

TITLE: Evaluation of Cadet Privileges

PRINCIPAL INVESTIGATOR: MAJ Ramon A. Nadal

SUPPORT: None

SCOPE: This study will examine the current policies on cadet privileges and restrictions and attempt to determine their effect on producing career Army officers.

CONTRIBUTION: Provides a basis for considerations of the desirability of the present policy.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Continuing

TITLE: Effects of Increased Cadet Participation in Management of the Corps of Cadets on Cadet Attitudes

PRINCIPAL INVESTIGATOR: LTC Warren H. Eisenhart

SUPPORT: None

SCOPE: This study, which is comprised of many on-going and projected studies, will evaluate the effectiveness of increased participation as a means of increasing cadet commitment to the Military Academy goals.

CONTRIBUTION: Evaluation of current and future policy changes.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: This will be a continuing effort on the part of the Office of MP&L

TITLE: Peer Ratings During NCB

PRINCIPAL INVESTIGATORS: MAJ Ramon A. Nadal
MAJ Arthur H. Bair

SUPPORT: None

SCOPE: This study will determine the feasibility of using NCB peer ratings to help identify the poorly motivated cadet or the potential low aptitude cadet early in their cadet career.

CONTRIBUTION: Identification of unmotivated or low aptitude cadets will allow proper counseling measures to be initiated at a time when the cadet may be more amenable to change.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Data was gathered during NCB 1969 and report to continue during FY71

TITLE: Relationship Between Aptitude Standing and AOT Performance

PRINCIPAL INVESTIGATOR: LTC Robert H. Marcrum

SUPPORT: None

SCOPE: This study analyzed the relationship between performance on AOT as indicated by the efficiency reports rendered on cadets during AOT and AOT.

CONTRIBUTION: Aptitude standing was a better predictor, in this case, of poor performance than of outstanding performance.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Distributed as MP&L Research Report 69-d.

STATUS: Completed.

TITLE: Study of the Disciplinary System

PRINCIPAL INVESTIGATOR: LTC Warren H. Eisenhart

SUPPORT: None

SCOPE: A detailed analysis of the disciplinary system and the effects it has on the Corps of Cadets.

CONTRIBUTION: Recommendations will include major revisions of the disciplinary system in order to emphasize reward for good performance and to greatly increase cadet participation in administration of the system.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Report will be published during the Summer of 1970.

TITLE: A Preliminary Evaluation of the Fourth Class System

PRINCIPAL INVESTIGATORS: LTC Robert H. Marcum
LTC W. L. Golden
MAJ R. M. Macedonia
MAJ D. J. Erickson
MAJ R. A. Nadal
MAJ J. W. Baker

SUPPORT: None

SCOPE: This study is a detailed analysis of the Fourth Class System as it currently operates. This is the start of an on-going effort to evaluate the effectiveness of the Fourth Class System.

CONTRIBUTION: Recommendations were made to change the emphasis from pressure on the new cadet to development of the system.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Initial report published in May 1969. Future reports will be published during FY71.

DEPARTMENT OF TACTICS
OFFICE OF PHYSICAL EDUCATION

The research objectives of the Office of Physical Education are as follows:

- (1) to develop and maintain valid test batteries to measure general physical ability of cadets and to establish valid grading procedures to measure performance in class instruction;
- (2) to review physical ability standards for cadets;
- (3) to review the validity of the annual grade in cadet Physical Education;
- (4) to determine physiological changes occurring among cadets which relate to physical conditioning and development;
- (5) to determine improved Physical Aptitude selection procedures for USMA candidates;
- (6) to determine improved safety procedures for the prevention of athletic injuries among cadets;
- (7) to determine improved rehabilitative procedures for cases of sports injuries; and
- (7) to determine the relationship between physical ability of cadets and other factors of their success at the Academy and later as officers in the Army.

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PRINCIPAL INVESTIGATOR: MAJ M. T. Plummer

SUPPORT: None

SCOPE: The purpose of this study was to determine the reliability of the Motor Performance Test (MPT) under field conditions. Of the tests mailed to candidates, 139 were returned. Twenty-eight of the candidates returning their tests entered the Academy as new cadets in July 1969. In order to determine the reliability of the MPT under actual field conditions the 24 new cadets remaining at the time of this study were administered a second MPT consisting of the same items as the first. The primary difference between the two tests was that a local physical education specialist had administered the first in March and the Office of Physical Education, USMA, had administered the second in July.

CONTRIBUTION: The findings from this study indicated that the MPT, as constituted, is not a reliable test of a candidate's physical aptitude. The variability between the field test and the OPE administered test is most likely attributed to the variability in the administration of the field test by the testers. This variability suggests that the MPT is not a particularly good means to screen candidates.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed July 1969

TITLE: A Physical Aptitude Comparison of Foreign Cadets in the Class of 1973 with Their Classmates

PRINCIPAL INVESTIGATOR: MAJ M. T. Plummer

SUPPORT: None

SCOPE: Ten Foreign Cadets from the Class of 1973 were compared with 24 of their classmates on a Physical Aptitude Examination (PAE) given in August, 1969. The examination consisted of pull-ups, a standing broad jump, a basketball throw, a 150-yard shuttle run and a mile run. Analysis of variance techniques were used to determine differences at the .05 level of significance.

11.11.11.11. It is recommended that foreign cadets continue to be tested by the same battery of physical tests as their classmates. In conjunction with this the foreign cadets should be placed on a separate development squad when tests point out any weaknesses considered as severe.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed August 1969

TITLE: A Study of the Effects of a Program of Reconditioning on the Rate and Severity of Recurrent Shoulder Injuries

PRINCIPAL INVESTIGATOR: Mr. John B. Kress

SUPPORT: None

SCOPE: This study began during New Cadet Barracks-1969, with the purpose of determining the effects of a program of specific exercise upon the rate and severity of shoulder injuries in the class of 1973. Fifteen cadets participated in a program designed to develop strength and endurance in the shoulder joint stabilizing muscles. These cadets were then permitted to participate in the normal physical program without restrictions.

CONTRIBUTION: Results to date indicate that specific reconditioning may be effective in controlling the rate and severity of recurrent shoulder injuries.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71

TITLE: Predicting Athletic Success at the United States Military Academy

PRINCIPAL INVESTIGATOR: CPT R. L. Sloane

SUPPORT: This study was conducted as a Master of Science thesis at the University of Wisconsin with partial support from the National Science Foundation.

SCOPE: The purpose of this study was to examine information available on two groups of cadets from the Classes of 1971 and 1972. Data supplied enabled the following groups of variables to be used:

1. Pre-Academy
 - a. High School rank
 - b. A composite score using College Board results and a leadership evaluation score (LPS).
 - c. A physical aptitude examination (PAE).
 - d. Athletic participation prior to entrance.
2. Pre-Academic
 - a. All Pre-Academy variables.
 - b. A PAE given at the time of entrance.
 - c. A swimming classification test.
3. Athletic Success
 - a. Year-end physical education grade.
 - b. Grades from units of instruction within the physical education program.
 - c. Interscholastic and intramural athletic participation.
 - d. Academy attrition.

In an attempt to establish the desired relationships the Pre-Academy and Pre-Academic variables were regressed upon the Athletic Success variables. The output of this allowed for the construction of two regression equations to predict each desired measure of Athletic Success. One equation used only Pre-Academy variables to predict each measure of success, while the other equation used Pre-Academic variables.

CONTRIBUTION: The results of this study have aided in the continued investigation and improvement of methods used to predict the success of West Point candidates.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed August 1969

TITLE: The Physical Performance of West Point Generals as Cadets

PRINCIPAL INVESTIGATOR: CPT R. L. Sloane

SUPPORT: None

SCOPE: The purpose of this study was to investigate the relationships between cadet physical ability measures available on 92 active duty West Point general officers. The measures used include grades on all core physical education subjects, the physical

CONTRIBUTION: The results of this study indicate that the subjects were more successful than their classmates in cadet physical ability tasks requiring the characteristics of strength, agility and coordination. This reinforced previous findings relating physical ability and leadership achievement.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed February 1970.

TITLE: The Relationship of Secondary School Athletic Participation to Success at the United States Military Academy

PRINCIPAL INVESTIGATOR: MAJ R. B. Cairns

SUPPORT: This study was conducted as part of the requirements for a Master of Science degree at the University of Wisconsin and received partial support from the National Science Foundation.

SCOPE: The purpose of this study was to examine the possibility of simplifying present physical ability selection methods of determining the relationships between different levels of secondary school athletic participation, various admissions criteria, cadet leadership, grade point average and physical education grades.

CONTRIBUTION: The results of this study have aided in the continuing evaluation of the presently used methods of physical ability testing as an aid in candidate selection.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Completed July 1969

TITLE: A Study to Compare the Strength of the Quadriceps with Distance Jumped in a Standing Broad Jump

PRINCIPAL INVESTIGATOR: Mr. John D. Lemperle

SUPPORT: None

SCOPE: Approximately 300 Fourth Class cadets were administered a broad jump test and measured for strength of the quadriceps muscles using an isokinetic machine (Cybex). These measures were then intercorrelated and the results are currently being evaluated.

and in 1970, the result was a significant increase in the
FY 1971 budget in the field of research and development in the
cops muscle.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: to be continued in FY71

SCIENCE RESEARCH LABORATORY

TITLE: Computer Studies of Simple Molecular Fluids using Monte Carlo techniques

PRINCIPAL INVESTIGATOR: LTC W. B. Streett

SUPPORT: Computer time made available by USMA Academic Computer Center.

SCOPE: Computer programs have been written which are designed to simulate the behavior of molecular fluids by means of high speed calculations using Monte Carlo (random number) techniques. The programs have been tested, and are now being used to calculate macroscopic fluid properties from the properties of individual molecules and from assumed models for molecular interaction.

CONTRIBUTION: These calculations will provide important information concerning the form of the intermolecular potential function and the usefulness of theoretical models in predicting the equilibrium properties of classical fluids. The development of an adequate theory of the molecular structure is now considered to be one of the central problems in the physics and chemistry of liquids.

The availability of large amounts of machine time on the GE 635 computer at USMA has made possible a cooperative program between the USMA Science Research Laboratory and physicists at the U.S. National Bureau of Standards in Washington, D.C. and Boulder, Colorado. In this program, theoretical models proposed by NBS scientists are being used in Monte Carlo calculations of fluid properties on the USMA computer. This forms an important part of a broader program aimed at developing a model for intermolecular forces which can be used to predict equilibrium and transport properties of fluids over broad ranges of pressure and temperature.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued in FY71

TITLE: Experimental Studies of Phase Equilibria in Hydrogen-Helium Mixtures at High Pressures

PRINCIPAL INVESTIGATORS: LTC W. B. Streett (Science Research Lab)
LTC A. L. Erickson (ES&GS)

SUPPORT: Grant of \$27,900 from NASA, for the period 1 March 1970 to 29 February 1972.

SCOPE: Studies of gas-liquid-solid phase equilibria will be carried out for hydrogen-helium mixtures at pressures up to

These experiments will provide important information on physical structures of the outer layers of the planets Jupiter and Saturn. These planets consist almost entirely of hydrogen and helium, and their solid surfaces are presumed to exist at depths and pressures at which hydrogen-helium mixtures solidify under their own weight. Both theoretical and experimental knowledge of the conditions under which these mixtures solidify are very meager. There is some evidence that complicated structures may result from unusual phase behavior in the hydrogen-helium system. This experimental study is designed to explore some of these problems.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Project is now in the design stage. Significant progress is expected in FY71.

TITLE: Density Measurements of Liquid Mixtures of Neon and Hydrogen

PRINCIPAL INVESTIGATORS: LTC W. B. Streett (Science Research Lab)
LTC G. C. Chancellor (Dept. of Chemistry)

SUPPORT: Supported by an award of \$15,985 under Interagency Agreement No. NY 69-6407 between USMA and the U.S. Atomic Energy Commission, for a two-year period ending 28 February 1971.

SCOPE: Experimental measurements of the density of liquid mixtures of neon-hydrogen will be made, in the temperature range 5-30° Kelvin and at pressures up to 500 lb/in².

CONTRIBUTION: These experiments will provide important data for the design and operation of bubble chambers used in high energy physics research. A recent advance in bubble chamber design has led to the use of liquid mixtures of neon and hydrogen in place of pure liquid hydrogen used in the past. In order to properly design and operate the bubble chambers and to analyze experiments carried in these mixtures, extensive knowledge of their physical and thermodynamic properties are required.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued through 28 Feb 71. An extension of the interagency agreement and AEC financial support will be sought if necessary.

PRINCIPAL INVESTIGATOR: LTC W. B. Streett (Science Research Lab)
PFC H. Ringmacher (Science Research Lab)
Cadet R. Cousar (Chemistry 489, OE 451)

SUPPORT: Continuing support provided by ARO-Durham. Current grant is \$11,300 for year ending 20 June 1970.

SCOPE: Experimental measurements of the density of neon have been completed, covering the temperature range 80-130° Kelvin and pressures to 30,000 lb/in². Measurements of the density of liquid krypton, at temperatures from 120-200° Kelvin and pressures of 60,000 lb/in² are now in progress.

CONTRIBUTION: The principal application of these experiments lies in the field of the molecular theory of liquids and dense gases. Experimental data on the equations of state of substances consisting of simple spherical molecules are of great value in testing the validity of theoretical models for liquid behavior. Experiments in this program have contributed extensive new experimental data, of high precision, extending to pressures seldom reached in earlier studies.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

W. B. Streett and L. A. K. Staveley, "Experimental Study of the Equation of State of Liquid Argon," The Journal of Chemical Physics, 50, 2302 (1969).

W. B. Streett, "An Experimental Study of the Equation of State of Neon at Temperatures from 80° to 130° K and Pressures to 2000 Atmospheres," Journal of Chemical and Engineering Data (in press).

STATUS: To be continued in FY71. A renewal grant from ARO-D will be sought.

TITLE: Experimental Studies of the Phase Behavior of Light Gas Mixtures at High Pressures and Low Temperatures

PRINCIPAL INVESTIGATORS: LTC W. B. Streett, (Science Research Lab)
MAJ J. L. E. Hill, (Dept of Chemistry)
Cadet J. Lazzeri (Chemistry 489)

SUPPORT: Continuing support provided by ARO-Durham. Current grant is \$11,300 for the year ending 20 June 1970.

SCOPE: Exploratory research has been carried out on several binary mixtures of light gases in the temperature range 77°-220° Kelvin and at pressures up to 4000 atmospheres (60,000 lb/in²). Experimental data consist of phase compositions in the region of coexistence of gas and liquid phases, as well as a determination of the pressure-temperature boundary at which solidification occurs at high pressures. The mixtures studied include helium-nitrogen, helium-methane, helium-argon, neon-argon, and neon-methane.

CONTRIBUTION: Experiments under this program have led to a new theory concerning the deep atmosphere structures of the major planets (Jupiter and Saturn), and to a new explanation for one of the oldest puzzles in planetary science - Jupiter's Great Red Spot. The new theory follows from experimental results which show that mixtures of unlike molecules, when compressed to high densities at high pressures, often separate into two distinct phases, even under conditions for which the pure components are gases. Important new information on the melting behavior of gas mixtures at high pressures has also been obtained.

The experimental work has been entirely original, in that it has been carried out at pressures far beyond those reached in similar experiments elsewhere. From a fundamental point of view, the results provide new insights into the effects of pressure on molecular interactions.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

W. B. Streett, "Phase Behavior in Light Gas Mixtures at High Pressures," paper presented at a symposium on planetary atmospheres, sponsored by the International Astronomical Union, at the McDonald Observatory, Marfa, Texas, November 1969. (To be published in Transactions of the International Astronomical Union, 1970.)

W. B. Streett, and J. L. E. Hill, "Phase Equilibria in Fluid Mixtures at High Pressures: The Helium-Nitrogen System", Journal of Chemical Physics, 52, 1400 (1970).

W. B. Streett, "Phase Equilibria in Planetary Atmospheres". The Journal of The Atmospheric Science, 26, 924 (1969).

W. B. Streett, "Liquid Phase Separation and Liquid-Vapor Equilibrium in the System Neon-Deuterium," Proceedings of the Second International Cryogenics Engineering Conference, p. 260 (1969)

W. B. Streett, "Gas-Liquid and Fluid-Fluid Phase Separation in the System Helium + Argon at High Pressures," Transactions of the Faraday Society, 65, 696 (1969)

J. L. E. Hill and W. B. Streett, "Phase Equilibria in Fluid Mixtures at High Pressures," paper to be presented at 1970 Army Science Conference, West Point, N.Y., June 1970.

STATUS: To be continued in FY71. Plans have been made to extend the pressure range of these studies to 150,000 lb/in². A renewal grant from ARO-D will be sought.

MEDICAL RESEARCH UNIT

The Medical Research Project conducts research in the areas of cadet injuries with emphasis on athletic injuries. All injuries will be studied as regards to: causative factors; treatment; results of treatment; prevention.

MEDICAL RESEARCH UNIT

TITLE: Peripheral Neuropathy

PRINCIPAL INVESTIGATOR: COL Howard G. Abbott, MC

SUPPORT: Funded by Office of The Surgeon General, Medical Research and Development Command, Washington, DC

SCOPE: To investigate the cases of brace palsy which occur during New Cadet Barracks.

CONTRIBUTION: Thorough evaluation of brace palsy as regards: causation; treatment; prevention; and results since 1964.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Has been completed, and a technical report presenting the results of this study has been approved for publication. This report is in the final stage of preparation for submission to the printer.

TITLE: Evaluation of Acromioclavicular Joint Injuries

PRINCIPAL INVESTIGATORS: COL Howard G. Abbott, MC, and
Orthopaedic Surgical Staff, past and
present, since 1964

SUPPORT: Funded by Office of The Surgeon General, Medical Research and Development Command, Washington, DC

SCOPE: All acromioclavicular joint injuries requiring treatment or restriction from full activities of 72 hours plus, have been evaluated since 1964, and are continuing to be evaluated as regards: causation; treatment; short term results; long term results.

CONTRIBUTION: To determine the following: whether or not it is possible to predict at time of injury, what the short and long term results will be; whether or not our methods of treatment should be altered, and our diagnostic criteria changed; whether or not certain types of athletic endeavors at USMA should be changed, or dropped, because of the unusual number of these injuries.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Paper entitled "Acromioclavicular Joint Injuries in Athletics," presented by MAJ Norman A. Zlotsky, MC, and MAJ Anthony Ballard, MC, at the meeting of the Western Orthopaedic Association, September 1966, Denver, Colorado. The paper was an evaluation of the first 38 cases of this study.

STATUS: To be continued for at least 10 years.

TITLE: Evaluation of Glenohumeral (shoulder) Joint Injuries

PRINCIPAL INVESTIGATORS: COL Howard G. Abbott, MC, and
Orthopaedic Surgical Staff, past and
present, since 1964

SUPPORT: Funded by Office of The Surgeon General, Medical
Research and Development Command, Washington, DC

SCOPE: All glenohumeral joint injuries requiring treatment or
restriction from full activities of 72 hours plus, have been
evaluated since 1964, and are continuing to be evaluated as
regards: causation; treatment; short term results; long term
results.

CONTRIBUTION: To determine the following: whether or not it is
possible to predict at time of injury, what the short and long
term results will be; whether or not our methods of treatment
should be altered, and our diagnostic criteria changed; whether
or not certain types of athletic endeavors at USMA should be
changed, or dropped, because of the unusual number of these
injuries.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Paper entitled "The
Modified Axillary Roentgenogram," was presented by LTC Joseph
Rokous, MC, LTC John A. Feagin, MC, and COL Howard G. Abbott,
at the American College of Sports Medicine Meeting,
September 1969, Buffalo, New York. Additionally, an exhibit
was displayed at the annual meeting of the American Academy of
Orthopaedic Surgeons, January 1969, New York City.

STATUS: To be continued for at least 10 years.

TITLE: Evaluation of Knee Joint Injuries at USMA

PRINCIPAL INVESTIGATORS: COL Howard G. Abbott, MC, and
Orthopaedic Surgical Staff, past
and present, since 1964.

SUPPORT: Funded by Office of The Surgeon General, Medical
Research and Development Command, Washington, DC

SCOPE: All knee joint injuries requiring treatment or restric-
tions from full activities of 72 hours plus, have been evaluated
since 1964 and are continuing to be evaluated with regard to:
causation; treatment; short term results; long term results.

CONTRIBUTION: This study is divided into eight sections:

1. Medical Collateral Ligament Injuries.
2. Lateral Collateral Ligament Injuries.
3. Anterior Cruciate Ligament Injuries.
4. Combined Ligamentous Injuries.
5. Medial Meniscal Injuries.
6. Lateral Meniscal Injuries.
7. Combination Knee Joint Injuries, to include fractures.
8. Bizarre Knee Joint Injuries.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Paper entitled "Surgical Repair of Acute Medial Collateral Ligament Tears in Athletes," presented by LTC Norman A. Zlotsky, MC, and LTC Howard G. Abbott, MC, at the annual meeting of the American Academy of Orthopaedic Surgeons, January 1968, Chicago, Illinois, and at the Congress International Sports Military (CISM) Conference, April 1968, in France.

STATUS: To be continued for 10-20 years.

TITLE: Evaluation of Myositis Ossificans

PRINCIPAL INVESTIGATORS: COL Howard G. Abbott, MC, and
Orthopaedic Surgical Staff, past and
present, since 1964.

SUPPORT: Funded by Office of The Surgeon General, Medical Research and Development Command, Washington, DC

SCOPE: All extremity injuries requiring treatment or restriction from full activities of 72 hours plus, have been evaluated since 1969, and are continuing to be evaluated as regards: causation; treatment; short term results; long term results.

CONTRIBUTION: To determine the following: whether or not it is possible to predict at time of injury, what the short and long term results will be; whether or not our methods of treatment should be altered, and our diagnostic criteria changed; whether or not certain types of athletic endeavors at USMA should be changed, or dropped, because of the unusual number of these injuries.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: To be continued for two to four years.

TITLE: Evaluation of Individual Differences in Physical and Mental Fatigue.

PRINCIPAL INVESTIGATORS: CPT George J. Skrzypek
MAJ Sami El-Beheri

SUPPORT: None

SCOPE: An extension of the study reported in Technical Report No. 26. A sample of 80 Fourth Class Cadets (Class of 1972) were evaluated four times during the year. Each evaluation consisted of two portions: (1) Physiological measurements aimed at determining the level of general physiological fatigue; and (2) psychological measurements aimed at determining changes in the amount of mental fatigue during the Fourth Class year and concomitant changes in self-esteem, self-confidence, motivation and leadership style.

CONTRIBUTION: To ascertain the degree of difference among individual USMA Fourth Class cadets in physical and mental fatigue, and to relate such differences to broad aspects of Academy functioning and to some motivational variables.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as MRP Technical Report No. 33.

STATUS: Completed

TITLE: The Development and Change of Problem-Solving Strategies and Leadership Styles, U. S. Military Academy

PRINCIPAL INVESTIGATOR: CPT George J. Skrzypek

SUPPORT: None

SCOPE: To assess how the USMA environment affects cadets' strategies for approaching and solving problems which are directly relevant to their future military careers, and how their styles of leadership develop and change over their four years at the Academy. An attempt will be made to identify personality and background characteristics which are associated with those problem-solving strategies and leadership styles which are considered to be most appropriate for success in the military and at USMA.

CONTRIBUTION: This research will provide results relevant to the following issues: (1) what effects USMA has in developing and changing leadership styles and problem-solving strategies of cadets; (2) what background characteristics and which personality characteristics relate to scores on leadership style and problem-solving strategy; and (3) how the above scores relate to Academy performance data.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as MRP
Technical Report No. 35

STATUS: Completed.

TITLE: The Relationship of Leadership Style to Task Structure,
Position Power and Leader-Member Relations

PRINCIPAL INVESTIGATOR: CPT George J. Skrzypek

SUPPORT: None

SCOPE: To test a major theory of leadership, utilizing 128 USMA
Third Class Cadets. This study will attempt to predict differ-
entially group performance from knowledge of leadership style and
group-task variables.

CONTRIBUTION: The results of this study are expected to make
possible predictions concerning the question as to which broad
leadership styles result in effective performance in specific
group and task situations. If this study is successful, then it
would furnish practical, scientifically based information concern-
ing leadership training.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as MRP
Technical Report No. 34

STATUS: Completed.

TITLE: Successful Adaptation to USMA

PRINCIPAL INVESTIGATORS: COL H. S. Kolmer
LTC R. M. Dienel

SUPPORT: None

SCOPE: Interest has been expressed by USMA authorities in the
relationship of physical aptitude and adjustment at USMA.
Correlational studies have shown consistent, moderate associations
between these variables. It is the intent of this study to delin-
eate socially important aspects of physical activity and to relate
them to success at USMA. Measures of physical and other social
activities, both before and during the USMA experience, will be
obtained from Fourth Classmen and will be related to objective
performance criteria and judgments of success.

CONTRIBUTION: Preliminary determination of the effects of certain social aspects of physical activity upon adaptation in the USMA environment. May have implications for selection, and for training content and method.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Terminated

TITLE: Studies of Muscular Activity in the Fourth Classmen USMA Class of 1970: I Electromyographic Evaluation of Brace Palsy.

PRINCIPAL INVESTIGATOR: MAJ S. El-Beheri

SUPPORT: None

SCOPE: An extension of the study reported in Technical Report No. 27, with following modifications: (a) utilization of the integrated EMG signal (recorded simultaneously with the standard EMG) will provide a true quantitative value of the muscle activity for a given movement; and (b) an attempt will be made to elicit muscle stretch reflex in the involved area to determine the state of the feedback mechanism initiated by the muscle spindles.

CONTRIBUTION: Further elucidation of the physiological bases and effects of the brace palsy phenomenon.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as MRP Technical Report No. 27

STATUS: Completed

TITLE: Quantitative Analysis of Muscle Electrical Activity During Concentric and Eccentric Contraction

PRINCIPAL INVESTIGATORS: MAJ S. El-Beheri
Mr. J. B. Kress

SUPPORT: None

SCOPE: Forty-five cadets from the Special Exercise Program volunteered for this study. An eight-channel Grass Model 7A Polygraph was used to record the electrical activity of a number of selected muscles functioning against various degrees of resistance. The EMG was obtained while each muscle contracted against the same weight load in concentric and eccentric fashions. The muscles selected for the study were the biceps brachialis, triceps brachialis, brachioradialis, quadriceps

femoris, hamstrings and the gastrocnemius. All EMG activity was integrated and recorded simultaneously.

CONTRIBUTION: Initial inspection of the data indicates that there is a marked difference existing between the EMG's of concentric and eccentric contractions under the same weight conditions. It also appears that the degree of difference increases as the muscle contracts under heavier load. The findings of the study will enable the staff of the Special Exercise Program to determine the most suitable method of strengthening a given muscle or a group of muscles in terms of the type of exercise to be prescribed and the degree of resistance against which the muscle is allowed to contract.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as MRP Technical Report No. 32.

STATUS: Completed

U. S. Army Hospital

TITLE: Myopia Study

PRINCIPAL INVESTIGATORS: LTC R. A. Manson
MAJ D. L. Ditmars

SUPPORT: None.

SCOPE: The myopia research is designed to attempt to determine the effects of myopia in cadets. The method used involves four years of intensive study of visual acuity. A baseline visual standard has been established for certain cadets and these cadets will be followed by periodical visual checks throughout their four years at West Point.

CONTRIBUTION: This research should lead to a better understanding of the myopia phenomenon.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: On-going; completion expected in FY72.

TITLE: Research Protocol on Infectious Mononucleosis

PRINCIPAL INVESTIGATOR: MAJ T. J. Hallee

SUPPORT: Funds are being provided from the Medical Research and Development Command.

SCOPE: The project will attempt to lend credence to the association of the Epstein-Barr virus with infectious mononucleosis; to identify the method of spread of the disease, and to outline steps which can be taken to decrease the spread of the disease.

CONTRIBUTION: It is estimated that 75-100 cadets annually spend an average of 8-10 days in the hospital per year at USMA, and that post-infectious mononucleosis fatigue has no doubt contributed to the poor performance of some cadets. The proposed research could result in a decrease in the incidence of such cases.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

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TITLE: Evaluation of the Effectiveness of Non-Friction Insoles in Preventing or Reducing the Incidence of Marching Blisters Incurred by Cadets at USMA

PRINCIPAL INVESTIGATOR: CPT G. Besterman

SUPPORT: None

SCOPE: The purpose of this study was to ascertain whether or not a recently developed Neoprene non-friction insole is sufficiently effective in preventing or reducing the incidence of blisters caused by combat boot wear during New Cadet Barracks as standard items of issue.

CONTRIBUTION: Although the results obtained from the use of the non-friction insoles are generally favorable and show good potential, at this time they do not appear desirable enough to be considered standard items of issue to New Cadets.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as a USMA Hospital Report.

STATUS: Completed December 1969

TITLE: Mumps Skin Test

PRINCIPAL INVESTIGATOR: MAJ A. L. Frostad; MAJ H. A. Colker

SUPPORT: Research funds to cover costs incurred are available from the Health Research Council of the City of New York

SCOPE: The purpose of this proposed study is to test the concordance between the presence of a neutralizing antibody and the reaction to the antigen-containing component of commercial skin-test antigen.

CONTRIBUTION: It is anticipated that if good agreement between the presence of neutralizing antibody and skin test reaction is observed, a method for preparing an accurate skin test material will have been developed.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: A report is anticipated by April, 1971

OFFICE OF RESEARCH

The Office of Research conducts a research program in support of the recruitment and selection of cadets and on the impact of the Academy's programs on cadets' performance and upon graduates. The Office of Research provides certain services in support of other Academy offices. Perhaps the most important of these services are advice and assistance to officers and cadets involved in the conduct of research projects. The Office of Research not only locates sources of funding for projects, it also provides professional consultant services whereby technical advice and assistance are given for all aspects of research from the design of a project to presentation of a final report. In addition, the Office of Research maintains a central library of research done at the Academy, acts as a clearing house for research information, and provides a central data bank of information regarding candidates, cadets and graduates.

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OFFICE OF RESEARCH

TITLE: Class Characteristics

PRINCIPAL INVESTIGATORS: Mr. John W. Houston
SP6 Daniel L. Stoller
SP5 John E. Hespenheide

SUPPORT: None

SCOPE: Biographical data are obtained from each entering class in accordance with the expressed needs of various USMA agencies and activities. These data are then furnished in summary form and by name rosters as needed.

CONTRIBUTION: Biographical data are made available for administrative and research purposes. This saves much manual cadet personnel records searching when such data are needed throughout the fiscal year. Also, further analysis will be done relating these biographical measures with success at USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XB1.01-69-001

STATUS: Reports completed on each entering class, Classes of 1963 to 1973. New questionnaires were prepared and will be given to incoming cadets during the first week of New Cadet Barracks. A summary report will be prepared and distributed in early FY71.

TITLE: Summary Report on Admission Scores of the Candidates and Cadets of the Class of 1973

PRINCIPAL INVESTIGATOR: Mr. John W. Houston

SUPPORT: None

SCOPE: A detailed break-out report on various admission criteria was prepared for the Class of 1973. Report is FOR OFFICIAL USE ONLY. Bi-variate break-outs of CEER and PAE qualification zones are made for various categories of candidates.

CONTRIBUTION: The purpose of this report is to bring together, for research and informational purposes, the summary statistics of the admission scores for the Class of 1973. This saves much time in working with these statistics as they are needed throughout the year.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XB1.01-69-004

STATUS: Report completed for the Class of 1973. Report planned for the Class of 1974 when information is available.

TITLE: Report of Financial Questionnaire of the Graduating Class of 1969

PRINCIPAL INVESTIGATOR: Mr. John W. Houston

SUPPORT: None

SCOPE: A study was made of the current system of budgeting a cadet's pay. A questionnaire was sent to all graduates of the Class of 1969. This report contains the results of that questionnaire.

CONTRIBUTION: To find the views of the most recent graduating class on the present system of forced accrual of a cadet's pay and to determine if the present system is the best system.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XA1.01-70-001.

STATUS: Report completed in February 1970

TITLE: Background and Predicted Success of Cadets in the Class of 1973

PRINCIPAL INVESTIGATOR: Mr. John W. Houston

SUPPORT: None

SCOPE: This report analyzed some selected characteristics of the Class of 1973 and showed how they relate to previous classes and to success at USMA.

CONTRIBUTION: Provides basic data on the entering class for the USMA data files.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XB1.01-70-007.

STATUS: Report completed.

TITLE: USMA Academic Achievement Index (AAI)

PRINCIPAL INVESTIGATOR: Mr. C. F. Bridges

SUPPORT: None

SCOPE: An explanation of the AAI standard scores and their uses to appraise each cadet's actual academic performance relative to

that of other cadets having the same CEER-measured academic capability.

CONTRIBUTION: A readily available index reflecting the extent to which a cadet's motivation, work habits, and learning effectiveness have resulted in higher or lower academic performance than is typical at USMA. Provides an efficient statistic for determining potential value of any new measures being evaluated.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Procedure being utilized in research. Study completed.

TITLE: Class Differences in Grades and CEER

PRINCIPAL INVESTIGATOR: Mr. C. F. Bridges

SUPPORT: None

SCOPE: Analyze the differences between the four classes in the distributions, means and interrelationships of term and year-end academic averages and CEER in the four class levels.

CONTRIBUTION: Comparability of academic grades assigned the four classes; prediction of a cadet's graduation academic averages over-all and by area, from test and grade data available before the beginning of any term, help determine the extent to which research findings at one class level are applicable to other class levels.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Cancelled

TITLE: Some Factors Bearing on the Image of USMA

PRINCIPAL INVESTIGATOR: Mr. C. F. Bridges

SUPPORT: None

SCOPE: The purpose of this report is to compare the attitudes of the graduating Class of 1969 with those of the graduating Classes of 1958 to 1963 toward USMA and its programs. The attitudes of officers from the same classes will also be compared

with their attitudes just prior to graduation. Shortly before graduation cadets in the Classes of 1958 to 1963 and the Class of 1969 answered questions related to their general attitude toward USMA and its programs. A sample of graduates from the Classes of 1950 to 1962 answered similar questions in June and July 1969. Trends in the cadets' attitudes will be determined and compared with the attitudes of the USMA graduates. The relationships between these attitudes and other selected characteristics will be determined and their implications discussed.

CONTRIBUTION: It is hoped that this study will show the areas where the image of USMA has changed in the eyes of cadets and how this image should attempt to be changed.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Report under preparation.

STATUS: Data collection complete; analysis underway.

TITLE: Candidates Who Declined Appointment to USMA Class of 1972

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: This report was designed to identify and study factors related to seeking and subsequently declining appointment to USMA.

A questionnaire was sent to the 266 candidates who declined appointments to the Class of 1972; 239 (90%) of these questionnaires were returned. Telephone calls were made to find out where the remaining 27 decliners went. The contents of the 239 replies were analyzed and their significant characteristics summarized. USMA's current declination rate is quite low relative to that for other comparable colleges. Among the decliners for the Class of 1972, USMA's strongest competition is from the other service academies .

CONTRIBUTION: The primary reasons for seeking appointment: preparation for a military career was the dominant "primary reason" given for seeking an appointment to USMA. Almost one-fourth of the decliners sought an appointment to USMA for assurance in obtaining an uninterrupted and prestigious education. About one-fourth viewed it as a good alternative if they could not get into their preferred academy or other college.

The primary reasons for declining appointment: among all 239 respondents the dominant "primary reason" given for declining their appointment to USMA was related to its academic program. Among the 118 respondents who entered a public or private college or remained on active duty in the Army instead of entering a service academy, the five-year military obligation was given as the primary reason almost as often as all the other reasons combined.

Some effects of USMA admissions activities: as to the date by which the decliners were notified that they had been accepted, USMA was significantly earlier than USNA and USAFA (by an average of about 13 days) and significantly later than the other colleges (by an average of about 16 days). At least among decliners, USMA's direct personal recruiting contacts and publications compared unfavorably, in both numbers and effectiveness with those of the colleges entered; most especially with those of the USAFA. The nominees who declined appointment have a significantly higher measured potential for success at USMA than does the average cadet in the entering class. However, decliners for other colleges also are typically above the mean scores of the students who entered. For most colleges checked the differences between declining and entering students were not as marked as were these differences for USMA. Analysis of data on decliners provides some understanding of the factors influencing the image of USMA, but this cannot be fully interpreted and applied until comparable data are analysed on cadets and on nominees who drop out or cancel prior to being offered an appointment or rejected.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA5.01-69-001.

STATUS: Completed July 1969

TITLE: Analysis of West Point Elementary School 1968-1969 Test Data

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: At the request of the Post School Officer, data were analyzed from the administration, in grades three through eight, of the "Lorge-Thorndike Intelligence Test: Verbal" and the "Iowa Tests of Basic Skills". For each grade, separately and for all six grades combined, the average grade equivalents on each of the tests of basic skills and on the composite were computed and compared with the average grade equivalent on the intelligence test. Since the achievement test battery used does not include science or social studies tests, the relative achievement in these important areas could not be determined.

The average IQ of 114 for WPES pupils indicates that typically they can learn much more rapidly than does the typical pupil in the national population.

CONTRIBUTION: This research provided national norm data against which the USMA elementary school children could be compared. The instruments used in this study should be investigated for further usefulness.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Verbal preliminary report made to Principal September 1969; report completed and transmitted to Post School Officer on 30 October 1969.

TITLE: Changes in the Image of USMA

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: Shortly before graduation cadets in the Classes of 1958 to 1963 and the Class of 1969 answered questions related to their general attitude toward USMA and its programs. A sample of graduates from the Classes of 1950 to 1962 answered similar questions in June and July 1969. Trends in the cadets' attitudes will be determined and compared with the attitudes of the USMA graduates. The relationships between these attitudes and other selected characteristics will be determined and their implications discussed.

CONTRIBUTION: Objective information on the changes in attitudes toward USMA over a period of several years and on some of the factors related to these changes.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Data now being analyzed. Report expected early in FY71.

TITLE: Changes in Commitment of USMA Cadets to a Military Career

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: This is the third in a series of studies of using two special scales designed to measure a cadet's expressed commitment to pursuing a military career and to graduating from USMA with adequate precision for research on changes. These two personal characteristics were selected as being among the more important motivators for success at USMA.

The Military Career Commitment Gradient (MCCOG) was given to the Class of '72 in 9/68 (4)⁰, to the Class of '71 in 7/67 (4)⁰, and 9/68 (3)⁰, to the Class of '70 in 7/66 (4)⁰ and 9/67 (3)⁰, and 9/68 (2)⁰, to the Class of '69 in 9/68 (1)⁰ and 5/69 (1)⁰, to the Class of '67 in 5/67 (1)⁰ and to the Class of '66 in 5/66 (1)⁰. The Academy Graduation Commitment Gradient (AGCOG) was given to the Class of '72 in 9/68 (4)⁰, Class of '71 in 7/67 (4)⁰ and 9/68 (3)⁰, Class of '70 in 9/68 (2)⁰, and Class of '69 in 9/68 (1)⁰.

CONTRIBUTIONS: In a given group of cadets the average expressed commitment to a military career was high, equaling an expressed probability of better than 84 chances in a hundred at entrance, and dropped appreciably until the Second Class Year. It dropped only slightly during the first class year except for one class at one level, the cadets of a given class level were appreciably lower than those at the same level the previous year. The average expressed commitment to graduation of all groups is very high, equaling an expressed probability of better than 99%, but the 1969 cross section of classes indicates that the higher the class, hence the older and the earlier it entered USMA, the higher its average commitment to graduation.

The military commitment is less stable during the first 14 months than during the next 12 months, there is considerable shifting during both intervals; military commitment, at entrance is not a "permanent" trait.

The data suggests that a sizeable portion of the changes in military commitment scores are due to actual changes in commitment rather than to errors in measuring commitment.

The MCCOG scale is shown to have a reliability coefficient of .83, adequate for making decisions about groups.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IB5.08-67-003. Published November 1969.

STATUS: Continuing project; now incorporated as studies under Project IB5.00-67.

TITLE: Implications for USMA of Data Reported in "Scope Grade Eleven Profile, 1968 Questionnaire; Selected Items" and Related Research Reports

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: This research is designed to determine implications for Admissions and other USMA officials of the descriptive report from the Center for Research and Development in Higher Education, University of California, Berkeley, and sponsored by the College Entrance Examination Board. The jointly sponsored seven-year longitudinal study SCOPE (School to Colleges' Opportunities for Post-Secondary Education) is designed primarily to discover "the decision-making patterns among high school students--the way in which they acquire information about colleges and vocations; the nature and relative importance of parental, school, and general community influences on their decisions; and when various stages in the decision-making process occur..." It involves almost 90,000 secondary school students in California, Illinois, Massachusetts, and North Carolina, originally 244 public and 55 non-public schools were involved. The samples were drawn, from the four states, to be generally representative of public and private school students on important characteristics in each state.

The descriptive data given in the various tables of the available SCOPE reports were studied to identify the implications for USMA admissions activities; appropriate combinations, analyses, and tests of statistical significance were made; and related findings from other research studies were used to help supplement and interpret the findings from the SCOPE data.

CONTRIBUTION: A somewhat more precise basis for interpreting both college plans data and college attendance data, obtained from various groups of high school students is provided. Most high school students, particularly those of modest achievement and relatively low socio-economical backgrounds, make firm decisions about what they will do after graduation, during their senior year, but about 15 percent still do not know as late as the Spring semester. The rank order of twenty major fields among SCOPE boys who expect to graduate from a four-year college and among scope boys who expect to seek a post-graduate degree are given.

The level of interest in military as a major surpassed that of one-fourth of the other majors given as choices. Typically in the states represented, 2.5% of the pupils planning to complete college, and 1% of those planning to seek post-graduate degrees, selected military as their major area. Comparisons by geographic region are given. Other pertinent data analysis and their implications for USMA are presented.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Now being analyzed. Report scheduled early in FY71.

TITLE: Factors Differentiating Between Candidates Who Cancelled Prior to Admissions Evaluation, Those Who Declined Admission and Those Who Entered USMA.

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: This study was designed to check the findings reported in IA5.01-68-001 and to identify some of the major factors that distinguish between the three groups. It is based on data for Classes of 1972 and 1973.

CONTRIBUTION: Determination of the extent to which cadets who accept appointment tend to do so for the same and different reasons that influence other candidates to decline. It is hoped that identification of the factors that influenced candidates to cancel prior to their being evaluated or to decline proffered appointment will show how USMA programs could be refined to help reduce cancellations and declinations.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Data collected and being analyzed. Report expected early in FY71.

TITLE: Occupational Interests of Graduating Cadets

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: A statistical summary of the pattern of occupational interests of the Classes of 1967 and 1968 on the occupational scales in the Strong Vocational Interest Blank, and of Class of 1967 on the occupational and college level scales of the Kuder Occupational Interest Survey.

CONTRIBUTION: Report to the graduates and interested USMA personnel on the occupations in which the typical USMA graduate is most, and those in which he is least, interested. Comparison of the SVIB occupational scales and basic area scales means with those of active duty officers and retired colonels and generals.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Summary Report distributed to Class of 1967 participants, 15 June 1968. Cancelled.

TITLE: Personal Characteristics and Performance at USMA

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: Using all available data, determine the differences in personal characteristics that distinguish successful cadets from the unsuccessful cadets on the basis of four criterion areas (retention, ASR, commitment to military career, and predicted academic performance). The studies currently comprising the descriptive phase will evaluate: (1) problem solving speed, (2) work environment preference, (3) selective word memory, (4) personal values, (5) personality factors, (6) interpersonal values, (7) background data, (8) pre-USMA academic achievement index, (9) occupational interest measures, and (10) commitment to a military career. The predictive phase will integrate the results from the individual studies and determine the most effective predictors of the basic four criterion areas of USMA performance. The study incorporates the following FY69 studies: IB5.04 (Occupational Interests as Predictors of Performance) and IB5.08 (Commitment to a Military Career).

CONTRIBUTION: Increased understanding of the factors that are related to four USMA performance criteria, improved prediction of performance at USMA, and, hopefully, scales that will identify candidates whose personalities are compatible with USMA and Army careers.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Only reports on preliminary studies listed elsewhere but now incorporated into this more comprehensive study.

STATUS: A continuing project. Next report scheduled for January 1971.

TITLE: Relationships Between Selected Aspects of USMA and Changes in Commitment to a Military Career

PRINCIPAL INVESTIGATOR: Claude F. Bridges

SUPPORT: None

SCOPE: This research is a continuation of the series on commitment to a military career and is designed to determine trends in the relationships of the various programs, aspects, and activities of USMA with increase and decrease in commitment to a military career. Populations used are cadets in the Classes of 1969, 1970, 1971, and 1973. For cadets tested two or more times the differences between their later scores and their earlier will be compared with their perception of the affects of the various major aspects of USMA on their changes in commitment.

CONTRIBUTION: Identification of the factors in the USMA environment that are related to changes in the cadets commitment to a military career will at least provide guidance for research to determine how USMA can do an even better job in this important aspect of its mission. It is hoped also that some implications for action will be revealed.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IB5.08-66-002.

STATUS: A continuing project; now incorporated into Project IA5.00-67-001. Report scheduled for middle of FY71.

TITLE: Decision to Attend USMA

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: The purpose of this study is to investigate the process by which a student decides to seek a nomination to the Military Academy. An open-ended questionnaire was administered to new cadets to express in their own words the factors which led to their decision to seek a nomination. From this a new questionnaire was developed for use with on the Class of 1973. Analysis of this latter questionnaire was used for this project.

CONTRIBUTION: Requested by Director of Admissions, this project should result in greater understanding of students' motivation for seeking a nomination to the Military Academy.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report ICl.01-68-001.

STATUS: Research completed; report prepared.

TITLE: Development of a Test Battery to Aid Cadets in Their Branch Choice

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: A pilot study for the development of an appropriate branch assignment inventory of tests is being conducted. This study will determine the feasibility of improving the probability of success of USMA graduates by assisting them in their branch selection through the use of psychological testing.

CONTRIBUTION: A well designed battery of tests could be used as aids in vocational guidance in preparing cadets to make the career choice for which they appear to be best suited.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IXA4.00-67-001.

STATUS: Project terminated during FY70.

TITLE: Role of Misinformation in USMA Success

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: The impact and influence of misinformation about USMA was studied to determine its importance in cadet motivation and success or failure. This study surveyed cadet opinion regarding information concerning the Military Academy which they had prior to entrance.

CONTRIBUTION: This study was designed to determine if there were any major changes needed in the information provided candidates. Findings show that areas of misinformation and lack of information do exist. However, these areas appeared to be minor in importance and not greatly related to performance at USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IXB1.03-67-001.

STATUS: One report prepared. Project terminated prior to its final completion.

TITLE: Relationships Between Family Pressures and USMA Success

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: Evidence on the relationship between family and cadet motivation to attend USMA with performance was obtained and, an effort was made to assess the effect of family pressure for coming to the Military Academy, both in bringing in some cadets unwillingly and in motivating cadets to succeed.

CONTRIBUTION: This study was designed to determine if an effort should be made to develop a practical measure of family pressure for attendance at USMA. Findings show that the effects of family pressure on USMA success are diverse.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IXB2.01-67-001.

STATUS: One report prepared. Project terminated prior to its final completion.

TITLE: Validation of the Civil Service Designation Examination (CSDE)

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: The Civil Service Commission provides some data.

SCOPE: The Superintendent requested that the Office of Research work with the Civil Service Commission in attempting to have the CSDE revised and that a validation study be conducted.

CONTRIBUTION: As this is the first "hurdle" in the admission process, this should be the most valid. A preliminary look at its validity, showed the CSDE to be a valid instrument for predicting success at USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA5.01-68-001.

STATUS: Data partially analyzed. Validation study to be completed in August 1970.

TITLE: Success of Academic Board Selected Cadets in the Class of 1973

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: Study was FOR OFFICIAL USE ONLY.

CONTRIBUTION: Study was FOR OFFICIAL USE ONLY. The general findings were that the Academic Board Selected Cadets were very successful.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA1.04-70-001

STATUS: Report written; project completed.

TITLE: Study of the Impact of the Five Year Service Obligation on USMA Cadets

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: The purpose of this study was to bring together and make an analysis of current information on the effects of the five year service obligation on USMA cadets.

CONTRIBUTION: There is not enough evidence to support or refute any particular length of service obligation. Further research is called for to answer these questions: What is its effect on motivation to succeed and retention in the Corps of Cadets?

What is its effect on motivation to succeed and retention in the Army? What is its effect on recruitment for USMA?

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IIA1.03-69-001.

STATUS: One report written; research temporarily terminated; waiting a decision outside of the Office of Research as to the amount of resources which will be available for this project.

TITLE: Time and Distance Consideration in Going to Test Sites for Members of the Class of 1973.

PRINCIPAL INVESTIGATOR: Mr. John D. Kraft

SUPPORT: None

SCOPE: The entering Class of 1973 was asked to specify what problems they had in seeking admission to USMA. This report dealt with problems related to the test sites.

CONTRIBUTION: The conclusions are as follows: cadets in the Class of 1973 lost, on the average, three days (two school days) at the test sites. On the average, they traveled 51 to 100 miles to their sites (one way). They indicated that the testing interfered with their school and other activities. Also, they indicated that seeking admission to USMA was only slightly more involved than to other service academies but was definitely more involved than seeking admission to other colleges.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA3.02-69-005.

STATUS: Research completed; report written.

TITLE: A Comparative Study of Early Resignations from USMA for the Class of 1973.

PRINCIPAL INVESTIGATOR: CPT Gary Spencer

SUPPORT: None

SCOPE: This is the second report dealing with the Sociological-Psychological Environment of USMA as perceived by cadets. This particular report compares the initially stated attitudes and expectations of entering cadets in the Class of 1973 among those who resigned during New Cadet Barracks (July-August), those who resigned in the early Fourth Class Academic Year (September-December), and those who persisted through these initial periods of high resignations.

CONTRIBUTION: This study is limited to six major areas which have been hypothesized as potentially significant to an understanding of the impact of New Cadet Barracks. These are:

1. What entering cadets hope to attain from attendance at USMA.
2. Why entering cadets choose to enter USMA.
3. How cadets perceive themselves.
4. Comparison of opportunities at USMA with those of other colleges and universities.
5. Factors influencing desire to remain at USMA.
6. Factors influencing desire to pursue a military career.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IVA3.02-70-002.

STATUS: Completed April 1970

TITLE: A Social-Psychological Profile of the Class of 1973, A First Report.

PRINCIPAL INVESTIGATOR: CPT Gary Spencer

SUPPORT: None

SCOPE: This report deals with the selection and socialization of cadets at USMA. This initial report is descriptive in nature and presents a social psychological profile of the entering Class of 1973.

The report is limited to six major areas which have been hypothesized as potentially significant to an understanding of the impact of New Cadet Barracks. These are:

1. What entering cadets hope to attain from attendance at USMA.
2. Why entering cadets choose to enter USMA.
3. How cadets perceive themselves.
4. Comparison of opportunities at USMA with those of other colleges and universities.
5. Factors influencing desire to remain at USMA.
6. Factors influencing desire to pursue a military career.

CONTRIBUTION: The results from this report, along with other relevant data collected by the Office of Research, act as a base point in defining the characteristics of entering classes at USMA. Future reports will use this basic information for (1) comparing USMA freshman with other college freshman, (2) measuring changes over time in the attitudes of cadets, (3) and in attempting to identify those characteristics of both cadets and the USMA environment as they influence cadet attrition and performance.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IVA3.02-69-001

STATUS: Completed January 1970.

TITLE: The Development of a High School Motor Performance Test

PRINCIPAL INVESTIGATOR: CPT Gary Spencer

SCOPE: This report was prepared as a continuation of a research project concerned with the validation of the USMA Physical Aptitude Examination. The larger report, entitled, The United States Military Academy Physical Aptitude Examination System, (FOUO), dated 14 January 1969, is available from the Office of Research.

CONTRIBUTION: This research found that it is possible to measure physical aptitude defined as performance on the USMA physical aptitude examination by statistically weighting a simpler High School Motor Performance Test administered in the candidate's local high school.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA3.02-69-004.

STATUS: Completed July 1969

TITLE: A Multidimensional View of Cadets' Decision to Seek a USMA Nomination

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: A list of 29 primary influences affecting an individual's decision to seek a nomination to USMA were analyzed. The methodology included the use of factor analysis to develop a hierarchy of dimensions.

CONTRIBUTION: Five major dimensions affect an individual's decision to seek a nomination. A sixth dimension is related to the time of decision. Scores were developed for each of these dimensions. Two second order dimensions were found, "The West Point Image" and "The Function of a West Point Degree". The six scores can be used for further research purposes.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IC1.01-70-001

STATUS: Completed June 1970

TITLE: Ability and Performance by Academic Areas of Concentration: Class of 1971 Fourth Class Year

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: The research investigated the relative potential and 4⁰ performance differences for cadets of the Class of 1971 entering the various academic areas of concentration. The basic tests were done using one way analysis of variance and "t" tests.

CONTRIBUTION: It was found that the selection of areas could best have been explained by knowledge of academic potential as measured by the CEER. There were also difference in the mean levels of the Military Career Commitment Gradient for the various groups.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IIB3.09-69-001

STATUS: Completed December 1969

TITLE: Survey of Graduates of the United States Military Academy, Classes of 1950 to 1962, Background, Schooling and Careers

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: The background, schooling and career patterns were obtained for 1109 USMA graduates. The responses on the questions were used to compare those on active duty with those no longer on active duty.

CONTRIBUTION: The survey allows for a comparison of the attitudes and progress of those on active duty with those no longer on active duty. It also shows how both groups are doing in their chosen careers, including comparative data on income and schooling. Attitudes concerning the Army and USMA are reported.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IXA3.01-70-001

STATUS: Completed February 1970

TITLE: The Characteristics of Compensating Evidence for Applicants with a CEER Score in the Grey Zone

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: For Official Use Only

CONTRIBUTION: For Official Use Only

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA3.01-69-001

STATUS: Completed October 1969

TITLE: Analysis of the Leadership Potential Score

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: The purpose of this research is to investigate the components of the data contained in the three major contributors to the Leadership Potential Score: Athletic Activity, Co-Curricular Activities, and Faculty Appraisal. A set of candidate scores will be developed in each area and then multiple regression will be employed to evaluate their use in predicting various USMA criteria.

CONTRIBUTION: The resulting scores will represent a major input into a system for admissions selection.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Continuing; estimated completion September 1970.

TITLE: Analysis and Prediction from Basic Criterion Variables

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: The project seeks to develop a computerized admissions selection system. The system will produce output for the applicant's expected performance in the academic, leadership, and

physical ability areas. It will also produce expected relative class standing per each applicant.

CONTRIBUTION: The system will have the advantages of simplicity and flexibility. It will give the decision-makers the relevant data in a highly useable form.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: On-going monitoring project

TITLE: The Application of Computer Simulation to a Three Person Non-Zero Sum Game

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: Computing facilities made available by the University of Tennessee Computing Center and Department of Industrial Management.

SCOPE: This paper is a synopsis of the research done for a Master's Thesis at the University of Tennessee, 1964. It investigates the use of an iterative algorithm to approximate the solution to a three person non-zero sum game with infinite strategies.

CONTRIBUTION: The results provide the decision-maker with a large number of flexible variables in defining a competitive situation. It allows also for the reduction of large numbers of alternatives to a manageable form for simulation.

PUBLICATIONS AND CONFERENCE PRESENTATIONS:

Gerald W. McLaughlin; The Application of Computer Simulation to a Three Person Non-Zero Sum Game. Read at the United States Army Operations Research Symposium, May 1970, Durham, North Carolina.

STATUS: Completed May 1970

TITLE: A Tentative Analysis of the Validity of ACT Scores

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: This research will investigate the validity of the American College Test (ACT) in predicting USMA Fourth Class grades for a sample of cadets from the Classes of 1971 and 1972. The ACT scores will also be compared with CEER scores.

CONTRIBUTION: The results will allow for the optimum use of the ACT sub-test scores in the USMA admissions process for applicants not having CEER scores. Tentative conclusions will also be drawn concerning the future use of ACT scores in predicting USMA academic performance.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA3.09-70-001

STATUS: Expected completion July 1970

TITLE: A Multidimensional Analysis of Non-Varsity Sports

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: The dimensions of high school non-varsity sports and physical activities were studied to produce a reduced set of measures for an applicant's activities. Multivariate techniques were employed.

CONTRIBUTION: Nine measures were created which represent the major dimensions in the domain. These measures will be used in further research to predict physical and leadership performance of a cadet at USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA4.07-70-001

STATUS: Completed June 1970

TITLE: A Multidimensional Analysis of High School Varsity Sports, Class of 1972

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: This research was performed to reduce the number of variables needed to report a cadet's participation in high school varsity sports. The methodology included the use of factor and cluster analysis.

CONTRIBUTION: Fifteen scores were produced for further use in predicting physical and leadership performance at USMA. Fourteen of these scores related to Experience and Recognition in five standard sports; baseball, basketball, football, track and cross country, and wrestling, and in two groups of non-standard sports, Contact Team Sports and Others. The fifteenth score was one of Captain in Standard Sports.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IA4.07-70-002

STATUS: Expected completion, July 1970

TITLE: Ability and Performance by Academic Area of Elective Concentration: Class of 1972 Fourth Class Year

PRINCIPAL INVESTIGATOR: CPT Gerald W. McLaughlin

SUPPORT: None

SCOPE: The study was a replication of the similar study for the Class of 1971

CONTRIBUTION: Academic potential and performance remained the major difference among the means of cadets in the academic areas of concentration. Some shifts occurred among areas with lower means, but the relative patterns were otherwise similar.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IIIB3.09-69-002

STATUS: Completed January 1970.

TITLE: Investigation of Physical Aptitude and Performance

PRINCIPAL INVESTIGATOR: CPT Walter E. Hecox

SUPPORT: None

SCOPE: The use of the High School Motor Performance Test will be validated against 4⁰ Physical Education grades for participating cadets from the Class of 1973. Scores from high school physical activities will also be included.

CONTRIBUTION: The research will determine the statistical feasibility of using a locally administered physical ability measure as a replacement for the current Physical Aptitude Examination.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Estimated completion September 1970

TITLE: Variance Explanation of DORE Scores for USMA Graduates
in the Classes of 1967, 1968, and 1969

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: A previous study of DORE scores for USMA (The Performance of USMA Graduates in the Classes of 1967, 1968, and 1969 on the Defense Officer Record Examination - A Product Appraisal Report) indicated that USMA had higher DORE mean scores than other sources of Army officer procurement, partially because of the original stringent selection criteria of cadets concerning mental ability. However, USMA probably adds to the mental ability of cadets (as measured by DORE) by the nature of its curriculum. This influence of the curriculum can be partially explained by studying the amount of variance accounted for in USMA graduates' DORE test scores by CEER, LPS, PAE and academic grades. Standard multiple regression techniques are usually valid for this purpose, with the GRE used as the dependent variable.

CONTRIBUTION: A study of this kind should help evaluate the impact which the USMA academic curriculum has on the mental aptitude of its graduates.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: A research report is planned to report the findings on this study.

STATUS: This study is currently in progress and should be completed by December, 1970.

TITLE: The Performance of USMA Graduates in the Classes of 1967, 1968, and 1969 on the Defense Officer Record Examination (A Product Appraisal Report)

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: The purpose of this report is to compare the mental aptitudes of recent USMA graduates with other newly commissioned officers and with a large group of civilian college graduates. The Defense Officer Record Examination (DORE), prepared by Educational Testing Service-Graduate Records Examination (GRE) Division, is the comparative test instrument employed. The analysis covers the fiscal years 1967 through 1969 and includes officer DORE scores for the Army, Air Force, and Navy.

CONTRIBUTION: The conclusion is drawn that, as measured by the DORE, Service Academy graduates compare favorably with other junior officers as well as with a large group of civilian college graduates. USMA graduates apparently are receiving a solid undergraduate education which prepares them to compare favorably with other junior officers and civilian college graduates on this test of general mental aptitude. Further research is necessary to determine the impact of the curriculum at West Point on the USMA graduate's DORE performance.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report VC1.02-70-001

STATUS: Completed May 1970. The comparison of DORE scores by source of officer procurement is completed in this report. A variance explanation of USMA DORE scores for the Classes of 1967, 1968, and 1969 is planned to investigate the impact of CEER, LPS, PAE and academic grades (see following project description).

TITLE: Report on the USMA-Stewart Air Force Base Education Surveys

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: A survey was conducted by the Office of Research to measure potential interest in graduate level college work located in the USMA-Stewart AFB vicinity. Widespread dissatisfaction has been expressed concerning the lack of graduate level college course at or near USMA and the distance required currently to commute to colleges offering such courses. The hypothesis of the study was that sufficient numbers of people were interested in graduate course work to justify the establishment of "on-post" graduate course work in cooperation with a civilian college or university.

CONTRIBUTION: The findings of the survey indicate overall interest in graduate work. However, sufficient numbers of individuals must be interested in specific subject areas (at the same level of expertise) before any civilian college or university could consider conducting coursework at or near the USMA-Stewart AFB area. While a large group of respondents specified interest in graduate work leading to a Masters degree, a closer look by subject area of interest indicates only a few specific subjects with sufficient interest to warrant "on-post" course offerings. The wide dispersion of both subject area of interest and level of graduate work suggests that most schooling must continue to be reached via private transportation arrangements to the area college or university granting the required degree.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IIIA3.01-69-001, October 1969

STATUS: Completed

TITLE: Costing Cadet Education at USMA

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: The purpose of this project, requested by the Comptroller, was to compare the present practice of costing cadet education with the approach which many economists recommend. Where discrepancies arise between the two approaches further analysis and consideration is called for. The goal should be either to eliminate these discrepancies by changing the current approach or to justify explicitly the continued existence of these differences.

CONTRIBUTION: This type of analysis contributes to an understanding of the resources required to educate cadets and the treatment of these resources in current and suggested cost calculations. It is important to cost cadet education correctly and to make explicit the procedures involved.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Report submitted to Comptroller, June 1970, Office of Research Report XA5.01-70-001

STATUS: Completed

TITLE: Prediction of Size of Class by Source of Appointment for the Class of 1974

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: This project was designed to predict class size by source of appointment for use by the Director of Admissions and Registrar.

CONTRIBUTION: An exercise like this is useful in the admissions procedure in estimating vacancies and probable size of entering classes.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Sent to Director of Admissions and Registrar October 1969. Published as Office of Research Report IA5.02-69-001.

STATUS: Completed

TITLE: Report on the 1969 US Military Academy Preparatory School Visitation to the US Military Academy

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: This study investigated the impact of the USMAPS visitation to West Point on the opinions of cadet-candidates towards seeking admission to USMA.

CONTRIBUTION: The USMA Office of Research, in conjunction with the Commandant of USMAPS, decided to study the impact of this visitation on the cadet-candidates. One potential benefit of such a study would be improvement (in the format and schedule) of future visits. A second benefit could accrue to various activities and departments at USMA through a study of the anticipated versus actual perceptions of an outside group of the indoctrination program designed for the visit. Finally, data on the cadet-candidates' reactions to the USMA visitation, when combined with other background and performance data, might help improve USMAPS as a training base for later success at USMA.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IXDO.00-69-004

STATUS: Completed December 1969

TITLE: Guidelines to Individual Research by USMA Staff and Faculty Members

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: This project was intended to describe the organization and resources for the support of independent research at the Military Academy and outline the procedures pertaining to application, acceptance and execution of such projects.

CONTRIBUTION: This pamphlet serves as a guide to conducting research requiring grant support.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report

STATUS: Completed February 1970

TITLE: A Comparison of New Cadets at USMA With Entering Freshmen at Other Colleges: Class of 1973

PRINCIPAL INVESTIGATOR: CPT Walter Hecox

SUPPORT: None

SCOPE: The United States Military Academy, in July 1969, participated for the fourth time in the American Council on Education's (ACE) annual survey of the characteristics of students entering college as first-time, full-time freshmen. The major purpose of this ACE survey is to determine how students are affected by the college they attend; at the same time, it provides valuable comparative data about various subgroups in the population of American college freshmen. West Point's participation in the survey permits a comparison of entering plebes with norms for other freshmen male students and with norms for groups of schools with specific institutional characteristics.

CONTRIBUTION: This report reveals the similarities and differences between new cadets and other college freshmen. Information of this type is valuable in studying the admissions procedures as well as the educational environment at West Point.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IB4.03-70-001

STATUS: Completed February 1970

TITLE: An Overview of the Success of Negro Cadets at West Point: Cadet Rank, Activities, and Present Rank

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: In order for the Office of Research to properly launch the Minority Group Research Project, it was felt that a knowledge of the history of the question be understood. The present report was prepared to meet this historical requirement and, hopefully, become an authoritative reference on the history of Negro cadets at West Point. The report covers the history of Negro cadets from 1870 to 1969.

CONTRIBUTION: Before the 1950's, Negroes were poorly represented and, often, poorly received at the Military Academy. This research effort tried to uncover the sources of those two conditions, and by so doing, concluded that the Academy, as an institution, was not fully responsible for the underrepresentation and mistreatment. Historical evidence suggests that the contemporary national politics were responsible for the paucity of Negro

nominations, and that the men of the Corps of Cadets were the well-springs of most of the discriminatory practices.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XB1.01-69-005

STATUS: Completed October 1969

TITLE: A Comparative Examination of Negro and Non-Negro Cadets in the Class of 1973

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: New cadets, upon arrival at USMA, are met with a comprehensive battery of tests generated from within and outside of the Military Academy. One portion of that battery includes the American Council on Education's Student Survey questionnaire. The survey provides information on academic accomplishments and aspirations, family backgrounds, as well as attitudes and opinions on current affairs, politics, and personal goals.

CONTRIBUTION: The study may be briefly summarized by stating that USMA Negro cadets appear to be very similar to their non-Negro contemporaries in terms of educational accomplishments and aspirations. The family backgrounds of the subject groups are quite different, however, as are their attitudes, opinions and values. When the Negro Plebes were compared to Negroes entering predominantly Negro colleges, the USMA cadets appeared better equipped, academically, and noticeably different attitudinally.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IB4.02-70-002

STATUS: Completed January 1970

TITLE: A Descriptive Analysis of the Negro Cadets in the United States Military Academy Class of 1973

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: The Descriptive Analysis was prepared to provide current information about the characteristics of the Negro cadets in the Class of 1973. The source of the data was the Class Characteristics Inventory administered by the Office of Research. Subjects

for the report were the 45 Negro cadets in attendance at USMA during July and August of 1969.

CONTRIBUTION: The results of the analysis cover high school academics, extra-curricular activities, sports and physical attributes, and miscellaneous data concerning the cadets' home states and family backgrounds.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XBl.01-69-002.

STATUS: Completed September 1969

TITLE: Educational Aspirations and Academic Environment of the Graduating Class of 1969

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: The purpose of this report was to present the relevant findings from the Class of 1969 Questionnaire pertinent to the educational aspirations, beyond the Bachelor's degree, of members of the graduating class. Presented in this report as well were data describing the academic environment of USMA and some biographical information on the cadets polled by the questionnaire.

CONTRIBUTION: In general, the report disclosed many trends in cadet aspirations and environmental perceptions from several perspectives: over time, as a function of Academic Order of Merit, and as a function of the educational level desired. The major trend appears to be a higher level of educational aspiration for more cadets and a commensurate increase in the degree of specialization desired.

The report also presents change in cadet opinions about the Fourth Class System, the academic curriculum, and commitment to a military career.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IVE1.01-69-009

STATUS: Completed January 1970

TITLE: A Study of Two USCC Classes: The Congruence of Cadets' Psychological Needs with the Environmental Stimuli at USMA

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: Henry Murray constructed a personality theory based on the concepts of need and press. Needs, according to Murray, are internal states which are expressed in a person's behavior as it relates to external stimuli that impel the person to act (presses). Some research at the Military Academy has indicated that the manner in which a cadet perceives his environment can and will decrease the prediction error for that cadet's performance in certain areas of study. In order to assess the cadets' perception of the presses of the USMA environment, the College Characteristics Index (CCI) was administered to 482 Second Class cadets for this study. To measure the cadets' needs, the Activities Index (AI) was administered to 874 Second Classmen from a different graduating class. The AI and CCI provide measurement on 30 comparable need and press scales. The rationale of the AI and CCI is that, for any given school, the student needs match the environmental presses of their school more closely than they do the presses of other school environments.

CONTRIBUTION: Results from this study indicate that cadet needs and their comparable Academy presses are not well matched. Furthermore, it was found that cadet needs differ greatly from those of other college students, and that the USMA environment is perceived in a way that is very different from the way other students perceive their college environment. These results, and others, demonstrate the need for more research in this area at the Military Academy. The AI and CCI should be readministered to the Classes of 1971-73, as well as to the incoming Class of 1974. If, upon re-examination the disparities found in this report are replicated, the need will arise for inquiry into the nature and causes of the differences.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IVE1.05-69-001.

STATUS: Completed November 1969

TITLE: Military Academy Graduates as Civilians

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: The life patterns of Military Academy graduates are of constant interest to many agencies within USMA as well as individuals involved with the counseling of potential West Point candidates. In response to this large interest, the Office of the Director of Admissions and the Office of Research Product Appraisal Project have polled the members of several graduated classes from 1950 to 1962. One of the purposes of these surveys

has been to learn more about the livelihoods pursued by Academy graduates who leave the service before reaching the 20 year retirement level.

CONTRIBUTION: This document should be quite useful for USMA public relations efforts associated with the admissions procedures. The results of this study also add to the comprehensiveness of the Office of Research Product Appraisal Project.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XIB1.00-69-001.

STATUS: Completed June 1970

TITLE: An Appraisal of the Use of CEER for Negro Cadets

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: This report assesses the academic success of the 41 Negro Plebes who have completed the first term at the US Military Academy. The research was designed to determine if Negro cadets in the Class of 1973 have lower admissions scores, and to discover if USMA's current prediction techniques are useful for Black cadets.

CONTRIBUTION: Results from this report suggest several important factors which should be considered carefully in the context of admission for Negroes.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XB1.01-70-006, FOR OFFICIAL USE ONLY.

STATUS: Completed March 1970, FOR OFFICIAL USE ONLY.

TITLE: Quality of Services to Cadets

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: This report examines the cadets' views of the quality of some of the service agencies at USMA which support cadet activities. Included in the rubric of service agencies are: the Cadet Store, Post Exchange, Post Laundry, Cadet Mess, Barber Shops, Cadet Supply, and Barracks Police. Also discussed in this study are the cadet views about their uniforms and the adequacy of the special clothing and jewelry displays provided in the Fall and Spring of each year.

CONTRIBUTION: The research was performed to learn, from the cadets, how well their daily needs are being met by the various cadet service agencies. An attempt was made to determine whether there were any services in which problem areas might exist.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XA4.01-70-001

STATUS: Completed February 1970

TITLE: The US Military Academy Honor Code: Trends in Cadet Opinions and Violations

PRINCIPAL INVESTIGATOR: Specialist Joel Morgovsky

SUPPORT: None

SCOPE: This study is FOR OFFICIAL USE ONLY

CONSTRIBUTION: This study if FOR OFFICIAL USE ONLY. The general findings showed significant trends in cadet opinions and violations from Class of 1950 to Class of 1969.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report IB5.05-70-001.

STATUS: Completed May 1970

TITLE: Implementation of an Information Management System

PRINCIPAL INVESTIGATOR: Specialist James L. Cooke

SUPPORT: None

SCOPE: In a previous research project, a design for SCIM, a System for Cadet Information Management, was prepared. The implementation of that design will be effected and documentation describing that implementation will be prepared. Three phases of the implementation will be: 1) GE-225/GE-635 File conversion, 2) GE-635 master file creation, and 3) software construction.

CONTRIBUTION: Existing techniques for system design will be augmented with special programming techniques as required.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Published as Office of Research Report XB5.01-69-001

STATUS: Expected date of completion 1 January 1971

TITLE: SKOL, A Special Purpose Utility Program; Implemented
for Use on the GE-635 Under the GECOS III Operating System

PRINCIPAL INVESTIGATOR: Specialist J. Erich Hespenheide

SUPPORT: None

SCOPE: Translation of SKOL 225/22 (See XAI.01-69-001) to
GE-635.

CONTRIBUTIONS: Over and above translation and simplification of
the 225 logic:

1. Page Control
2. SEQUENCE Function
3. RIPPLE Function
4. CALL Function
5. 3-FILE COLLATION

PUBLICATIONS AND CONFERENCE PRESENTATIONS: Report is written
as an addendum to XAI.01-69-001

STATUS: Program complete. Report to be completed by 25 Sep 70.

TITLE: USMA Parking Spaces Allocation Feasibility Study

PRINCIPAL INVESTIGATOR: COL Gerald W. Medsger

SUPPORT: None

SCOPE: A feasibility study to determine if the application of
linear programming techniques can be used to allocate parking
areas of USMA agencies so that the total walking distance for
personnel can be minimized.

CONTRIBUTION: If the use of linear programming techniques proves
feasible, the USMA Provost Marshal may be able to re-allocate
parking areas on a more rational basis.

PUBLICATIONS AND CONFERENCE PRESENTATIONS: None

STATUS: Data collection complete. Computer programming underway.

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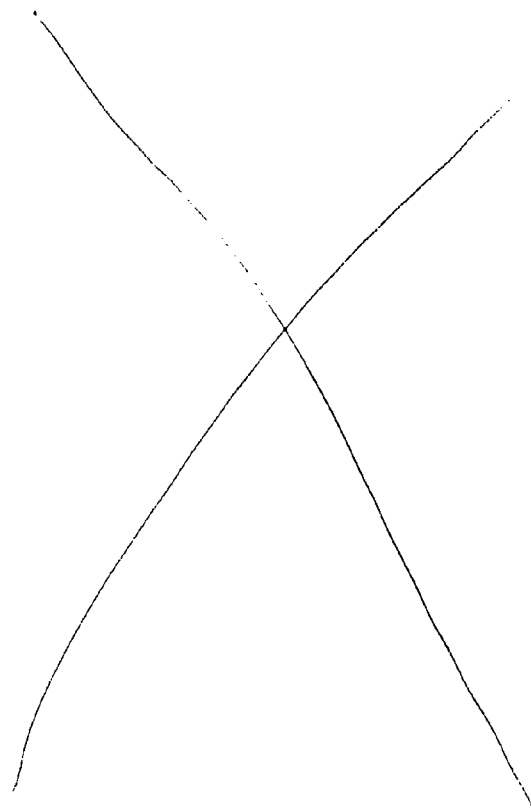
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